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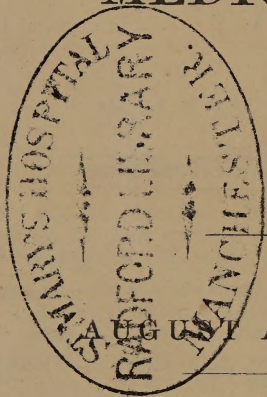
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THE
DUBLIN QUARTERLY JOURNAL
OF
MEDICAL SCIENCE.



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AUGUST AND NOVEMBER, 1867

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NOTICES TO CORRESPONDENTS.

We have been obliged to hold over several Original Communications, Reviews, and Clinical Records.

Authors of Communications are requested to write the prescriptions in their papers, in full, and in English.

Books and Periodicals published in Northern Europe and the German States intended for our Journal, should be transmitted "For the Editor of the Dublin Quarterly Medical Journal, care of Messrs. TRUBNER and Co., *London*," through their *Correspondents* in the principal Towns on the Continent. Our Correspondents in France, Belgium, Italy, and Spain, are requested to communicate with us through "Messrs. J. B. BAILLIÈRE ET FILS, *Paris*."

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DISORDERS of speech have been observed from a very remote period in connexion with diseases of the brain. Allusions to them occur in the works of the Father of Medicine, and the association of dextral paralysis, with lesion of speech, is noticed in a case in his *Epidemics*.^a Loss of voice and loss of speech, or aphonia and anaudia, were properly contradistinguished by him, and he shows a sense of the value of these states as prognostics, which is certainly wonderful for his time.^b

Since the period of Hippocrates until within the last few years, injuries of speech did not receive the attention which they deserved. This was due, in part, to their dependent attitude as symptoms, and the want of a fixed basis of reference, and partly to the neglect

^a Hippocratis op. Edit. A. Foes, De Morb. vulg. lib. i. § 7, p. 990—also Coac. præn. p. 174, B.

^b “Loss of speech (*αἰ ἀναυδία*) in fever is bad,” &c.

of the study of language as a science. Still, as M. Jules Falret has shown in his very able digest,^a information of much value upon this subject can be gleaned from the medical writings of our forefathers, an old mine newly opened, and still unexhausted. Many of the examples, it is true, have the air more of singularities, whose interpretation is tacitly bequeathed to the future, than of duly estimated pathological truths. The first step in advance was made, when it occurred to the fertile genius of M. Bouillaud to invert the problem and boldly regard disordered speech as a disease *sui generis*, with its own seat and laws. Although the views of M. Bouillaud respecting the anterior lobes of the brain as the foci of language have not as yet been substantiated, they have the credit of originating theories of even greater interest. Such are those of MM. Dax and Broca, the former limiting the cerebral seat of the speech-faculty to the left hemisphere; the latter fixing its *locus* in the third left frontal convolution.

The claims of "cerebral loss of speech" to rank as a disease in its own right, elicited the widest diversity of opinion in the debates at the Académie de Médecine in 1865. Omitting details on minor points, one section with M. Trousseau sanctioned it, with some modification, as a substantive disease. A second section, including MM. Piorry and Cerise, pronounced it a phantom-malady; a symptom appertaining to various diseases of the brain, and, like the famous *Avvocato del Diavolo*, protested against its admission into the Kalendar. A third section agreed with M. Baillarger, the excellent alienist physician, that while there are some grounds for believing in a special lesion, a positive decision thereupon is premature; so that instead of forcing laws to accord with facts, we should go back and collect facts for laws. In responding to such an invitation, it is not easy for a writer to avoid saying things as well or better said already.

In these countries medical opinion has, on the whole, been favourable to the so-called aphasia. This is due in part to the eloquent lessons of M. Trousseau. But we owe it to the memory of the late Professor Jonathan Osborne, to say that his communication "On the Loss of the Faculty of Speech Depending on Forgetfulness of the Art of using the Vocal Organs," in the *Dublin Journal*, November, 1833, anticipated the explanation for which M. Baillarger has received the credit, and was far in advance of his time. Neither did

^a Archives Générales de Médecine, 1864, Vol. i., pp. 336 and 591.

the subject escape the discursive glance of the late Dr. Graves.—*Dublin Quarterly Journal*, February, 1851. Since M. Broca's announcement in 1861, the subject has received the attention of such able writers as Drs. F. Winslow, Hughlings Jackson, Wilks and Moxon, of London; Dr. Banks, of Dublin, in this *Journal*, February, 1865; Drs. Sanders, Scoresby-Jackson, and Anderson, of Edinburgh; Drs. Gairdner and A. Robertson, of Glasgow, and other eminent physicians.

Assuming, then, that aphasia is a morbid unity, and not a simulacrum, the first question is to determine its pathological conditions.

In affections of the brain we meet with various degrees both of injury of the faculty of speech, and of oblivion of words, the latter ranging from transient eclipse to total obscurity. They may occur by themselves, or be accompanied with disorders of other functions. Are we warranted in forming by abstraction a class-disease of speech in cases where the disturbance of this faculty seems the paramount affection? There appears no sufficient reason why loss of speech should not be as well entitled to the name of a disease as loss of voluntary motion, or of sensibility, or of intelligence, all of which occur in nosography as distinct maladies.

The objection to one applies to all, that they generally betoken *structural* alterations in the brain. But as such underlying alterations are not, as yet at least, so definitively settled as to allow us confidently to predict their place, we are still obliged for convenience to name the disease in most cases from some functional injury. But what is to guide us when disorders of several functions, co-ordinate in rank, exist together? Should, for example, aphasia and hemiplegia be present in the same case, is our choice between the two names to depend, or not, upon the relative amount of their functional injuries? Heretofore the speech-lesion was ignored. But M. Broca has changed all this. If hemiplegia accompany aphasia, as it often does, it should, according to him, be regarded, not as a factor in the case, but as an epiphenomenon. Thus he lays down three characters of aphasia, two of them positive, (1) that the intellect continues sound; (2) that verbal memory is the only cerebral function injured; and one negative; (3) that peripheral paralysis of the articulating organs is not the cause of the loss of speech, which is purely cerebral.

A wider experience soon convinced unbiassed observers that M. Broca's tests were too stringent. Cases of aphasia, pure and simple, limited, for a time at least, to loss of verbal memory, do exist, with-

out any material difficulty of utterance, or any signal failure of intelligence, but these stereotyped examples are few. First, the intellect, as a rule, seldom retains its absolute integrity. And here we may remark that some writers, in their pardonable eagerness to believe that their aphasic patients preserve their powers of ratiocination unimpaired, are apt, as a sufficient proof of it, to rely very much upon their consciousness of the rational acts of ordinary life, or on their execution of some simple numerical calculations. But what proves too much proves nothing. To try the point, questions should be set which come up to the level of the previous capacity of the individual, and which demand some continuous mental attention. It is in this inability to concentrate the whole thinking power upon a difficult subject that the mind betrays its weakness. As to the second test, the upset of the muscular equilibrium sooner or later, by palsy or spasm, too constantly occurs to allow loss of verbal memory its claim to be considered the solitary function affected. Even the third, though the most constant test, is not unexceptionable, some peculiarity or other of utterance being found, not sufficient, however, as Dr. Sanders observes, "to prevent or seriously to interfere with the articulate pronunciation of words."^a Of this kind we may mention unusual rapidity of speech and blurring out words, or hesitation and drawling, loudness of tone, intermixture of syllables, &c., &c.

It appears, therefore, that loss of the memory of words is not sufficient to explain all the phenomena in those cases, and it fails altogether in clearing up those singular, but well-authenticated exceptions, in which the individual, when attempting articulate language, only gibbers and makes meaningless sounds, but is able to express his ideas correctly in writing. To include the latter variety there is required a second form of aphasia, in which the thing forgotten is not language, but (as in the case given by Dr. Osborne) the acquired art of using the articulating apparatus; or, as others think, a lesion of the centre of co-ordination for the speech-movements; or again, a failure in the transmission of the behests of the will. Hence, the basis of injury in the first form would be a defect in a psychological function, while in the second it would be a flaw in some part of the nervous machinery. Two typical formulæ of aphasia are, therefore, according to our present knowledge, to be discriminated. (1). *Lethological or Amnesic Aphasia*—viz.: That

^a Edinburgh Monthly Medical Journal, March, 1866.

form of defective speech, which is caused by partial or complete forgetfulness of language, both spoken and written, without a sufficient impairment of the intelligence, or difficulty of the articulation, to account for it. (2). *Aneural or Ataxic Aphasia*—viz. : That loss of the faculty of speech, which consists in a partial or total inability to articulate words correctly, without any obvious paralysis of the tongue, lips, &c., while the memory of words and of their significations is retained, and the individual is able to write, though not to speak, intelligibly.

To these two forms there are cognate states, between which and them it is not easy at times to draw the line of demarcation, as we shall see farther on.

The disorders of speech involve an inquiry into the relation between thought and language. Is this relation arbitrary, conventional, or necessary? If, as we learn from Destutt de Tracy, we can have no objective knowledge of other beings in the outer world than ourselves, save by the impressions which they cause us, the use of *signs* for interpreting those impressions becomes one of the first necessities of human existence. But signs are either natural and constant, such as voice, gesture and facial expression,^a or artificial and mutable, such as words, to which nature invites man by the gift of organs, as conditions of speech. Education teaches the child that a sound, uttered by the tongue, recognized by the ear, approved by the judgment, treasured by the memory, is thenceforward to represent to his mind a thought. But for this purpose a permanence of relation between sense and sound must be established. Ideas, being the offspring of the same senses and faculties, are alike in all our species, whereas words, as creatures of the will, are nowhere alike. Speech would, therefore, be unsettled, unless the arbitrary character of words, as sounds,^b could be so modified that, by voluntary agreement amongst peoples, they should not be changeable at will. Hence it is, that language in the concrete, that is, as a tongue, is conventional, and, as society advances in refinement, may become so redundant as to make it painful to recollect all the delicate *nuances* of thought and expression; while in the abstract, that is, the formal use of words as instruments of thinking, language is an obligation almost inseparable from the

^a "Sæpe tacens vocem, verbaque vultus habet."

"Me spectat, nutusque meos, vultumque loquacem."—OVID.

^b Max Müller endeavours to prove that the primitive roots of language are natural productions.

laws of thought. It draws forth thought from its mysterious recesses, gives it, in the imagery of the old Greek poet, wings for diffusion,^a imparts fixedness to its flashes, affords a clew in association to trace its whereabouts in the memory, links premiss to premiss in reasoning. "Words," says Bacon, "exercise a reactionary power over the intellect;" the idea calls up the name, and the name in turn suggests the idea. In fact, speech becomes to thought what the atmosphere is to light, its ambient medium, to which it owes perspicuity, colour, and utility. How is this union, which is made life-long by custom and habit, affected by disease? Sometimes thought and speech together, "like the children of our youth, die before us." Sometimes, as in the present disease, words fade away, while ideas more or less subsist. In the latter case natural language is mostly brought into exaggerated use, as a mimetic substitute for words. What elements of speech suffer most in aphasia? Dr. Osborne was of opinion that "the most common failures of memory were to be found amongst nouns, and especially amongst proper names, in consequence of their being less frequently repeated than verbs or prepositions,"^b an observation echoed by Dr. Graves, but anticipated by M. Louyer-Villermay. In my limited experience, verbs and particles, except the most simple of the former, such as the auxiliary verbs, &c., suffer as much as nouns, and some nouns in daily use are at times amongst the soonest forgotten. Proper names are certainly the most perishable, including what is curious, the name of the individual himself, which is supposed to stick to one like the skin. If the first learned be the most durable, it would be in favour of nouns.

An act of speech is a very complex operation. Upon analysis it includes various steps, from pure thought to mechanical utterance, so rapidly successive as to appear simultaneous. All the stages may be reduced for convenience under two heads, which may be termed *cognitive* and *executive*, thought-speech and spoken-speech, the interior and exterior speech of M. Bouillaud.

A. The Cognitive process comprises something like the following states: (a) the direct presentation of an object to the sensorium, or of an idea or image to the mind; or (b) the secondary presentation of an idea, when resuscitated out of unconsciousness by memory; (c) the naming acts, involving past and present conditions, such as learning words as signs, retaining them in memory,

^a "ἔπεα πτερόεντα."—HOMER.

^b Dublin Journal, November, 1833, page 158.

recognizing them as objects of former perceptions; reproducing the right word for the right idea, &c., &c.; (*d*) the aid of other mental states, such as habit, association, attention, &c., which, by long custom and apt concatenations of thought, help us to form those rapid judgments necessary for the quick communications of speech.

B. The Executive process is partly *psychical*, partly *somatic*.

1st. The psychical part consists of the will and the emotions.

(*a*) The will may be termed the head-centre of action. It interposes as legatus between intellect and brain. It initiates the speech-impulse, and thus, in point of time, precedes the intellectual operation, and continues its oversight until the mechanical process be completed.

(*b*) The emotions occupy a much less elevated position. They sometimes, as motives, determine the will to originate speech, sometimes they originate it themselves, and even in despite of the will, by a sudden impulse upon the bodily structures, as is seen in the involuntary ejaculations from bursts of passion or feeling in this and other diseases.

2nd. The somatic or mechanical part of the executive process seems also to comprehend several stages, such as:—(*a*) the reception by the will from the intellect of the thoughts turned into words, and the transmission of them to a motor centre. In this case the worded thought is supposed to be developed through the agency of the grey vesicular cortical surface, and to be conducted by the fibres of the white medullary mass to the corpus striatum as the motor centre. (*b*) The combination of adjustments for the speech movements. This includes a supply of motor force measured to suit the occasion, incitation of the appropriate nerves, association of these into temporary groups, and harmonizing their combined action. Whether this innate modifying power be condensed in central masses, or diffused, we cannot tell; our consciousness only warns us when there is a jar in the movements. (*c*) The transmission of force from the brain to the articulating organs through nerves, as internuntii. (*d*) The muscular contractions, of course very variable for letters of such diversity of sound as labials, dentals, gutturals, &c. (*e*) A vocal apparatus to make the sounds audible, and lubricated to prevent dryness. (*f*) Hearing-organs to establish early a consensus between utterance and sound. Lastly, an external medium of suitable density.

The perfection of speech may be interrupted by defects in any of these stages, or even altogether lost. They represent states very

different from each other, and hence the forms of speechlessness are numerous. For presenting a thorough view of speech, as affected by disease, they all have their value, but as this would widen the question too much, we shall, retaining the term aphasia as a convenient genus, notice such forms as are to be distinguished from *Aphasia proper*.

1st. *Aphasia propter dementiam*.—"Alalie par hébétation."—Mutism from idiocy. A very striking case of congenital speechlessness is now under my care. Mary Cadigan, aged twenty-five, of ordinary development, not deaf, has never articulated a word in her life. She utters sounds, however, which resemble the cries of a wild animal. She has not sense enough to feed herself, while she shows not the least recognition of the person who has fed her for years. She is not paralysed, and when set up on her legs can move forward a few steps, but would fall unless caught. The co-ordinating power over the muscles is almost absent. A case, not unlike this, occurred to M. Breschet, who found the anterior lobes of the brain undeveloped.^a

2nd. *Aphasia surdorum ab ortu*.—Deaf-mutism. This state deserves to be carefully studied in relation to the question how far thinking is impeded by the want of oral language. In these cases the loss of speech is mostly compensated by pantomimic action, so facile and suggestive as to give some warranty for the assumption that gestural signs are as well entitled to a cerebral habitat as verbal.

Connected with *congenital* deaf-mutism is that *acquired* form, more frequent than is supposed, in which the hearing has been abolished by disease at too early an age for the child to learn the sounds of words effectively. A case of this in a servant girl, about twenty-three years old, has just fallen under my notice. She can write a little, and makes an attempt at speaking some words, for instance, sugar is "duce," pain is "pay," apron "aby," saucepan "dauban," and her own name, Bridget Vaughan, is "Pitchy Baum." There are, however, various expressions used by her, such as duba, dema, dumuff, atchum, didum, jip, &c., which would require a Bunsen or Max Müller to determine what primitive roots they resemble.

3rd. *Aphasia ficta (proæretica, Sauvages)*. Feigned or voluntary mutism. This presents some curious examples of that morbid state of mind which could keep up a deception at so terrible a sacrifice.

^a Andral Clinique Médicale. By Spillan, p. 183.

Sir Walter Scott's beautiful fiction of the mute Fenella occurs to us, in which the fraud so well sustained was at length betrayed through the emotions. Scott gives the history of a real case, in which dumbness was feigned by a woman for three or four years, until one day seeing a scampish boy thieving, she forgot her part, and cried out, "Ah! you little devil's limb," to the horror of the boy, who ran off, in the belief that "dumb Lizzie was a warlock."

4th. *Aphasia ab ecstasi vel melancholia*.—Mutism self imposed from high mental tension or depression. "Sadness and misanthropy with silence," (Hippocrates). The mind absorbed in some dominant idea is insensible to the succession of events going on around.

5th. *Aphasia attonitorum*.—Speechlessness from sudden and intense emotion, especially terror. The effect of the shock is mostly but temporary; however, John Peter Frank refers to three cases where it was lasting. In classical authors, the term aphasia, is only applied to this state.

6th. *Aphasia traumatica*.—Mutism from traumatic causes. Sauvages cites a case in which, from a contusion of the neck, loss of speech lasted two years, and was cured by cathartics. I am indebted to Dr. Hewitt, of Cork, for notes of a like case. A boy named Fane, aged fifteen, received a kick from a cow, between the nose and forehead, which stunned him, but left apparently at the time no other injury than a few scratches and slight epistaxis, so that he walked after it some miles to a fair. On the fourth day, he was seized, while at work, with vertigo and loss of speech. A fortnight afterwards his head was shaved and blistered without success. Similar counter-irritation by blistering and ung. ant. tart. was used to the throat, and mercury was given to salivation, but without any improvement. He was then taken to Dr. Fowke, of Cloyne, to be mesmerized, which step also failed. After being dumb for seven months, Dr. Hewitt presented him before the Cork Medical Society in 1852. His hearing, taste, and sight were perfect, deglutition easy, and his tongue could be moved in any direction. He could not articulate a single letter of the alphabet. A brief account of the above was published in the *Dublin Medical Press* for 1852. The sequel of the case was curious. He continued twelve months as servant with Dr. Fowke, totally mute, when he got extensive inflammation of the anterior part of the scalp, followed by suppuration, and regained his speech as suddenly as he had lost it eighteen or nineteen months before. He continued in the country nearly two years, having the full use of speech, and

then emigrated to America, where he got married. It appears that he died about two years after; the cause of death was not known.

The following case is abridged from Hippocrates. A beautiful girl, nearly twenty, was struck in the forehead (bregma) with the flat of the hand, by a playmate. She suddenly lost her sight and breath. On returning home she was seized with fever, pain of head, and flushing of face. On seventh day, a cyathus of reddish pus issued from right ear with relief. The fever relapsed, she became *speechless* (anaudos) and drowsy, the *right* side of her face was drawn, and the tongue paralysed, convulsive tremors set in, and she died on the ninth day.^a

7th. *Aphasia spasmodica*.—Spasmodic mutism. This form is well known in connexion with hysteria and hypochondriasis, and sometimes lasts for weeks or months. Dr. Bright gives two cases of it as hysterical trismus.^b The periodic or intermittent form is curious. It occurs usually in the evening, going off in the morning; and J. P. Frank met with three cases of it; one lasted five months.^c Another case is quaintly described by Dr. T. Willis, author of "De anima Brutorum," which he terms "paralysis spuria." "I am now attending a modest and prudent woman, who for many years has been liable to this, not only in the members, but also in the tongue. She speaks freely for a time, but after a long or rapid conversation she becomes as mute as a fish, being unable even to say (*γρυ*) gry. After a few hours she recovers speech."^d

8th. *Aphasia a debilitate vocis*.—Aphonia. Here the defect lies in the vocalizing or sound-producing organs, and not in the articulating; a mute cannot articulate, but can utter sounds; an aphonic cannot utter any sound whatever. The two states do not often co-exist.

9th. *Aphasia sympathetica*.—This interesting variety happens at times in the course of other diseases, and recovery usually takes place when the primary ailment has subsided. It seems most frequently associated with some form of fever, chiefly of the gastric or typhoid form, and in young persons. Dr. Osborne gives three examples of this kind. Sauvages mentions a case of it from worm

^a Hippoc. de Morbis Vulgatis, Lib. V., sec. vii., p. 1154.—Foes.

^b Bright's Reports of Medical Cases, Vol. ii., p. 460., cases 215 and 217.

^c J. P. Frank, De Morbis Hom. Cur. French translation by Goudareau, Vol. ii., p. 458.

^d Op. T. Willis, M.D., de Paralyti, p. 406.

fever in a child (*mutitas verminosa*), which was cured after twenty days by the expulsion of thirty-six lumbrici. The child recovered speech, but could not utter the letter B.^a A most striking case is given in full by Dr. Scoresby-Jackson, as a sequela of typhus fever.^b E. Wilson notices the case of a child who became dumb from retrocession of measles, but speech came back two years after. J. P. Frank has observed it in puerperal fever; and Hippocrates has noticed its occurrence in the fevers of pregnant women. It is not uncommon after cerebral affections. Joseph Frank had a case in a child of six years, who was attacked soon after birth with convulsions, and remained mute, though the hearing was perfect.^c As a sequela of epilepsy, it occurred in a policeman, named Tobin, admitted under my care into the Cork North Infirmary, November 22nd, 1866. All the effects of the fit had passed off for some days, except aphasia; he had no loss of verbal memory, he swallowed easily, and moved the tongue in all directions, but could not articulate a word. He was leeches on the temples, and blistered behind the ears, getting bromide of potassium internally, which treatment, after ten days, quite restored this important faculty.

10th. *Aphasia a narcoticis*.—Some kinds of vegetable narcotic poisons possess the property of causing suspension of the speech-faculty, but not as the effect of coma. In the *Dublin Quarterly Journal* for November, 1865, I detailed the occurrence of temporary dumbness in a boy who had eaten the roots of *œnanthe crocata*. Sauvages mentions that robbers infesting Montpellier in his time drugged the wine in taverns with the juice of the seeds of *datura stramonium*; those who drank it could not speak a word for two or three days, though wide awake.^d The berries of *atropa belladonna*, and roots of *hyoscyamus*, are said to have a like effect. The power of alcohol in fusing syllables together, or “clipping the Queen’s English,” is well understood.

11th. *Aphasia a vitio instrumentorum loquendi*.—This includes local injuries of the speech-organs, such as loss of the tongue, or hypertrophy or atrophy of it, morbid adhesions, &c.

12th. *Aphasia a glossolysi* (*Sauvages*).—Lingual palsy is the most frequent cause of loss of speech, and is mostly connected with deep-

^a Sauvages Nosolog. Method., Tom. i., p. 777.

^b Edin. Monthly Journal, Jan., 1867.

^c Joseph Frank, Prax. Med. Precep., Tom. iv., p. 75. French translation by Bayle.

^d Sauvages loc. cit.

seated cerebral lesions. Romberg describes two forms, *glossoplegia masticatoria* and *articulata*.^a The lesion in the encephalon takes effect upon or near the origin of the hypoglossus nerve, between the olivary and pyramidal bulbs. Lingual palsy may sometimes begin in the peripheral extremity, namely, the substance of the tongue: and in Bell's paralysis, the portio dura may be engaged after its transit from the cranium, affecting the pronunciation of the labial letters, and generally blunting articulation.

Having thus briefly noticed certain varieties of loss of speech, which are not to be confounded with Aphasia *proper*, we proceed to consider the latter in its relations to the cognitive faculties and the operative mechanism. The disorders of speech connected with the former, without including the speechlessness of profound coma, may be ranged under two heads; (1) those wherein the intellect and the memory of language are obscured alike, and (2) those in which the intellect has originally suffered less than verbal memory, or has righted itself, while the memory of words has remained impaired. The first of these states of oblivion of words cannot strictly be considered aphasia, for utterance is mostly perfect, and a species of talkativeness often present, but language has ceased to be used with precision. Softening of the brain, involving the vesicular and fibrous structures is going on, the intellect grows weaker day by day, and language, its reflex, has no relevance. Memory fails in its relations of time and place; judgment can no longer clasp the links of thought, and sensations leave but faint traces in the sensorium. Such, in fact, was the state which Swift felt creeping on himself when he mournfully predicted that his fate would be to "die at top," the uppermost branches withering before the trunk was dead.

We mentioned above that to each of the typical forms of aphasia there was a cognate state from which at times it was hard to draw the line incisively. In the incipient stage of brain-softening, wherein the impairment of intellect and that of verbal memory proceed *pari passu*, we have a state not always distinguishable from the psychical type. The signs to guide us are the nature and degree of the disorder of the faculties, and whether language be more obliterated or pointless.

The second state of amnesia, in which the mental faculties are much less injured than the memory of words, is the chief province of the present disease. To estimate the loss sustained by the

^a Romberg Dis. Nervous System, Vol. ii., p. 302.

intellect in each case, the state of the faculties one by one should be noted. Are sensation and perception damaged? We present some familiar object to the senses of the person, and we infer from the animated glance with which it is recognized that those faculties are not materially defective. Is the memory of words weakened? We ask the name; an effort of recollection is made, evidently painful; it fails, and the poignant distress thereby caused is too obvious for mistake. We suggest the missing name; joy at recovering it beams forth again in the countenance, and words not occurring, gestures, such as "nods, and becks, and wreathed smiles," are had recourse to. In the same way as in the presentative faculties, the functions of abstraction, judgment and reasoning, should be tested. The wider the contrast between the retained faculties and the lost speech, the nearer the approach to aphasia.

M. Jules Falret, in his elaborate summary, has tried to compress, under three categories, the chief forms which aphasia assumes, but his conditions seem rather too crowded for clearness. They admit of a succinct classification under the following subvarieties:— (1) Partial loss or perturbation of the memory of oral language, without any other change. (2) The same state of oral speech with ability to repeat the missing word, when suggested, but inability to write it. (3) The same state of oral speech as the first, with inability to repeat the word, but ability to write it. (4) The same state of oral speech, with inability both to repeat and write the missing word. (5) Total loss of oral speech, retaining ability to write. (6) The same, with inability to write. (7) Degeneration of speech into inane phrases or mere monosyllables. In practice these states often merge into each other.

Some of the varieties of erratic speech are curious. Crichton gives a case in which one letter, in a word, was substituted for another. It occurred after fever. The patient, a German, wished for some coffee (in his language, kaffee), but instead of f, he put z, so that instead of asking for coffee, he asked for a cat (kazze). In every word which had f, he made a similar mistake.^a I have a patient who substitutes d for n, calling neck "deck," &c. Villermay cites a case where the position of the letters was altered, as tufle for flute.

Words are sometimes misplaced, the person having a consciousness of the mistake, but becoming bewildered at the moment. A

^a Inquiry into Mental Derangement. By A. Crichton, M.D. Vol. i., p. 373.

lady, Mrs. H., who afterwards died hemiplegic, had this peculiarity. She took a pride in her domestic *ménage*, and being desirous to tell her visitors that three of her servants had been comfortably married out of her house in 27 months, used to invert the figures, saying that 27 servants were married from her house in three months; and then seeing the incredulous stare of her hearers, she would perceive the blunder, and burst into a good-natured laugh at it. In the interesting case detailed by Dr. Banks, from the practice of Dr. Kidd and himself, some odd substitutions of words are given, one in which the gentleman fearing that his watch would fall out of his pocket and be broken, called out, "Take care of the break-fall."

Some examples of stock phraseology are amusing. One form of it is repetitive or cyclical. It consists in the unvarying utterance of the same word, or set of words—sometimes intelligible, sometimes not. A few years ago I had a case of this sort, in which the patient used to let off, at short intervals, like minute guns, the announcement, "My name is Cody." When a person, not in the secret, came near the bed, it created a flutter of surprise to be saluted with this formula of introduction. In another case the only words spoken were, "Where's my daughter?" the poor woman having been told suddenly that her daughter was dead and dissected; though she comes to see her once a week.

In some extreme cases language is confined to monosyllables. A woman named Jennings was for six or seven years in the Union Hospital with right hemiplegia. Her whole stock of words was "yes," "no," "too," and "oh God," which she uttered with various cadences to make herself intelligible.

The use of oaths in aphasia has been often noticed. I have now a patient in the infirmary whose answer to every question begins with "Oh! Begorrah!" After ejaculating this oath with great confidence in his powers of speech, the poor man comes to a full stop, ponders for the next word, and failing to find it, ends by making a frantic tug at his hair. Dr. Falret thinks that swearing occurs chiefly in emotional states. This is, I believe, often the case, but it also depends on the use of oaths as by-words from early habit. In odd persons the habit of strange by-words is regarded suspiciously as a flaw in the intellect. J. Frank had a patient who unceasingly intercalated in his conversation the words, "*hedera federa*;" and the late very learned but very eccentric Vice-Provost Barrett could not utter a whole sentence without interpolating the by-word, "d'ye see me now?"

Coming now to the Executive division of the speech-process, we have first to consider its psychical part, viz., the will and the emotions, and their pathological conditions in aphasia. First, the autonomy of the will over the economy, not including its moral aspects, has a threefold relation—it directs thought, it originates muscular action, and it curbs the passions and emotions. Thus, we are conscious that by willing it we can make the mind take up, or lay down, any train of thought—that we can continue, or forbear, at pleasure, any muscular act, and, guided by reason, that we can keep our feelings in check, if we try. Now in each of these three functions the will is weakened in aphasia.

First, in its especial relation to the memory, namely, setting it to work to recollect things, and to judgment in its property of fixing attention upon the succession of thought—it becomes weak in purpose and desultory in application. Secondly, in its function of initiating muscular action, the will fails, at least in the *second* form of aphasia, to compel the muscles of articulation to act. Lastly, in its office of regulator of the emotions, the will is seriously compromised in aphasia. The emotions are good servants, but bad masters, and when the dominion of the will over them is weakened, they act despotically on mind and body. Locke had the sagacity to notice their power over memory. “Ideas are very often roused and tumbled out of their dark cells into open daylight by turbulent and tempestuous passion.”^a Some phenomenon like this occurs in the case of language in aphasia. Words start up unbidden under strong emotion, which are difficult to be uttered during moments of composure. The difference of emotional language in this respect has been described by Dr. Hughlings Jackson. Indeed, the influence of the emotions on language has engaged the attention of philologists; and Messrs. Wedgwood and Farrar have sought the origin of the primitive roots of language in interjections uttered in bursts of emotion.^b “Interjections,” says Horne Tooke, “are only employed when the suddenness and vehemence of some affection or passion returns men to their natural state, and makes them for a moment forget the use of speech.”^c The power of emotion in breaking off speech abruptly is well known to our great poets.

The singular change which passes over the feelings in paralysis was well described by Van Swieten. “I have seen the wisest men

^a Locke on the Human Understanding, Book 2, § 10.

^b Max Müller on the Science of Language, p. ix.

^c Div. of Pur., p. 32.

and the bravest soldiers, in whom the masculine strength had become so enervated that, like a pouting child, for the slightest cause they would burst into tears.”^a It is asked whether these immoderate emotions occur most in aphasia, or in hemiplegia without aphasia. Dr. Trousseau thinks that in aphasia the emotions suffer but little change. Perhaps this is too strongly expressed. In one of the worst cases that I have seen of aphasia—that of Jennings—the emotions were uncontrollable. Van Swieten speaks thus of Malpighi, the famous anatomist, who died of right hemiplegia:—“*Magnam in memoria et ratiocinio læsionem habuit, et quavis minima de causa lacrymabatur.*”^b I have made a table of twenty hemiplegic cases in a large hospital for three months. In eleven the right side was affected; in nine the left. Of the eleven right hemiplegics five had no undue emotions, four had them slightly, and two very much. Of the six last mentioned, weeping occurred in all, laughing absurdly in three. Of the five not affected, two showed great lesion of speech, while three had only thickness and slowness of utterance. On the other hand, one of the two immoderate cases was quite aphasic, the other not; and of the four slightly affected, one was completely aphasic, the rest very little so.

Of the nine cases of left hemiplegia one was quite aphasic, eight not. The emotions were normal in two, the others were variously affected. Two of the seven both laughed and wept upon trivial causes, three cried but did not laugh, and in two laughing only occurred. Of the twenty cases, eighteen were females. This table, as far as it goes, supports the inference that in left hemiplegia the emotions are mostly disturbed, whereas in right the disturbance is less. The case of left hemiplegia with aphasia evinced both kinds of emotion, but not very much. In right hemiplegia there was no obvious connexion between emotional force and loss either of speech or motor power.

We proceed, lastly, to the somatic or mechanical part of the Executive process, with which the volitional impulse must be placed *en rapport*, in order that the thought complete in words may be set in motion. Loss of verbal memory does not meet the cases in which the person cannot speak, but can write. There is a broken step in some part of the ladder; and pathologists, in reviewing the stages of the cerebral mechanism of speech, are not agreed about the

^a Van Swieten on Boerh. Tom. iii., § 1018.

^b Van Swieten loc cit.

defective part. The first hypothesis in physiological order, supposes a failure in the voluntary transmission of the thought-speech to the motor centre. A breach of continuity is presumed to take place in the white medullary substance, whose function is internuncial, with the effect of intercepting the words *en route* from their potential origin in the convolutions. Hence the intimation from the will not reaching the motor centre, the organs of speech make no response. This is the theory of *defective transmission*; and the powerful objection against it is, how can the speech-message be conveyed to the writing-hand, when it is stopped on its way to the muscles of articulation? To meet it, different sets of conducting fibres are supposed, or different centres of co-ordination, one for the muscles of speech, and one for those of the hand as a writing organ. Dr. A. Robertson,^a a very able advocate of this view, considers that the inability to speak is essentially a motor and not a mental defect, and hence not amnesic. His argument against amnesia runs thus:—Language is necessary for reasoning; reasoning exists in aphasics, therefore language exists in aphasics—a conclusion apparently at issue with general experience. Words are certainly necessary for *expressed* ratiocination, and are most important adjuncts to the operations of thought; but I believe that we can mentally think or reason about a thing, though the name may have escaped us for the moment, the mind tacitly putting some vague expression to stand for its recollected meaning, like the algebraic *x*. Further, the substitution of words and the degeneration of language, so simply explained by want of memory, are on this theory accounted for by the deflection of the words from their course in consequence of the damaged fibres, and the transmutation of them into those words which travel most frequently along the road. This ingenious supposition does not explain how the missing word can be repeated with ease when suggested.

The hypothesis next in order presumes *a change in the co-ordinating motor-centre for speech-movements*. Should we not, in such an event, expect to find a spasmodic and inharmonious action of the muscles of speech, such as the muscles assume in chorea? This question is one, however, that merits the most ample consideration.

A third mode of interpretation suggested by Dr. Osborne in 1833, and held also by M. Baillarger, is *the loss of the memory of the movements necessary for articulate language*. Dr. Osborne

^a Journal of Mental Science, Jan., 1867.

argues that the art of speaking is a voluntary process acquired in early life, every syllable requiring a distinct muscular act, which the child learns slowly, but executes rapidly on repetition. Dr. Osborne uses an illustration taken from Locke, that of an expert musician, who, though each note needs a separate stroke of the keys of an organ, and each stroke is a muscular act, yet plays on in train, though his thoughts may be wholly preoccupied.^a This is automatic; the will is directed to the *first* note, and the rest follow in the series, the separate volitions, once required, being now suppressed ("dropt volitions"), the intervention of the will being no longer needed, though a preliminary in all successions. Indeed, the effect of attention being suddenly directed to the steps of the process, puts it often astray. It is objected how could we ever recollect all the movements necessary for speech? In fact, we do not trouble ourselves to think of them. When we write, every letter of the word is an act of voluntary thought and movement, but so rapid from habit that nobody thinks of it as such. Dr. Osborne inferred that the peculiarity in his unique case lay in the sudden oblivion of the whole art of speaking, which is so carefully learned in childhood, all other requirements being normal. The only mode of treatment is to begin *de novo* to re-establish the autocracy of the will.

We mentioned above that there was also an allied state sometimes hard to be distinguished from the second typical form of aphasia. It is the complication with paralysis of the articulating organs. It becomes hard to assign how much may be due to the cerebral source of loss of speech, and how much to the local palsy. The following extreme case of glossoplegia has some features resembling the standard case given by Dr. Osborne:—

Mr. J., aged thirty-five, when a medical student, seven years ago, got right hemiplegia. He was admitted into the Infirmary at the end of 1866. Speech is utterly lost; fingers of right hand rigidly flexed; whole limb is cold, and hangs down; right leg allows imperfect progression; deglutition affected; he can only swallow food in a semi-solid state; tongue tremulous, and protruded slowly and laboriously to half its usual extent. On laughing he utters a hoarse sound like a person choking, with spasmodic sobs. His intellect is not much impaired; sight and hearing good; memory of words not injured. He is fond of reading, and can write correctly

^a Locke, Book ii., ch. 33. On Association.

with the left hand; but from not being used to it, he prefers dictation. He does this by means of a printed alphabet, and he spells so rapidly by the finger the words which he wants written that it requires practice to follow him. His letters are expressed with clearness and point. The emotional powers are undisturbed.

Having endeavoured to describe the pathological characters of aphasia, we shall say a few words on its presumed seat in the brain.

It is not easy to discover the period when the special faculties of the mind were first allocated to distinct parts of the brain; but we find the germs of phrenology in the opinions of Theophilus and the Arabians, who placed phantasia, or the presentative faculty, in the anterior lobes; discursus, or cogitation, in the middle; and memory, as the lowest faculty, in the posterior.^a Dr. Gall located the intellectual powers in front; the moral sentiments in the coronal regions; while he relegated the animal passions, &c., to the posterior lobes. Remarking that a full, prominent eye co-existed with a facility of acquiring languages, this acute cranioscopist placed the working organs of speech in the convolutions resting upon the orbital plates, and the memory of words, &c., in the posterior part of the same. That very thoughtful and suggestive writer, Sir Henry Holland, long ago hinted that an excellent way to test phrenology would be to select some simple faculty, such as *language*, or music, or number, which has no opposing influence, and whose perfection can be attested.^b It is curious how this suggestion of Holland, made thirty years ago, about language, as one of the three tests most applicable, should be that which M. Broca now represents as discovered. If verified, it will undoubtedly prove the $\pi\omicron\tilde{\upsilon}\ \sigma\tau\tilde{\omega}$, or stand-point of other discoveries.

We mentioned above that the merit is due to M. Bouillaud for seeking *practically* to fix the cerebral seat of speech, or, as he terms it, "*le pouvoir législateur de la parole*," in the anterior lobes. During forty years of medical life, he has accumulated some hundreds of cases tending to show that in lesions of the anterior parts of both hemispheres speech is impaired, and *e contra*; when this faculty seriously suffers, the diagnosis of lesion of the anterior, and not of the middle or posterior lobes, may be made unhesitatingly. That this dogma is untenable has been urged by many, amongst others by M. Andral, who found that in thirty-seven cases of disease of the anterior lobes,

^a Avicenna lib. 1, can. fen. 1, Tr. 6. Averrhoes Collig. 2, 20.

^b Med. Notes and Reflections, chap. 30.

speech was abolished twenty-one times, and retained sixteen times. On the other hand, of fourteen unequivocal cases of loss of speech, seven were associated with lesion of the middle, and seven of the posterior lobes.^a It was supposed that traumatic injuries would decide the point more veritably; and M. Velpeau cited a case of great organic destruction of the anterior lobes by a tumour, without loss of speech. As the man was a barber, his retention of speech may not be quite conclusive. There are, in our own literature, some curious cases which sustain M. Velpeau. Mr. O'Halloran gives an instance in which a large quantity of the right anterior lobe was destroyed by suppuration, yet the patient retained his speech and faculties to the last, having lived seventeen days.^b A still more remarkable case is described by the late Surgeon-General Crampton.^c In 1818, Mr. H. Brougham, aged eighteen, nephew to Lord Brougham, received a gun-shot wound in the forehead, which exposed the anterior lobes. "In cleansing the wound, scarcely had three drops of water fallen on the part when he cried out:—'Oh! don't! Oh! what's that?' I asked him," says Sir Philip, "if I had hurt him? He said 'I do not know, but the sensation is dreadful.'" This great wound of the frontal convolutions healed up in time, leaving a depression, which pulsed like the fontanelle of an infant. Yet this gentleman, so far from losing his speech, took holy orders in the Church, and became a most efficient preacher.

M. Marc Dax, in 1836, is well entitled to the credit of being the first to show that in loss of speech, the lesion mostly exists in the left hemisphere, and that, should hemiplegia be present, it engages the right side, and seldom or never the left.^d It cannot be denied, that to assume for the faculty of speech a unilateral seat in a bilateral organ shocks our preconceived notions, and can only be settled by experience. But as we must, from our very nature, theorize, we are pressed to admit one of two conclusions—either that this faculty is strictly limited to the left half of the brain, while the necessary motor acts are consensual at both sides; a theory which is opposed to the argument from analogy, that parts which correspond in relation and sensible qualities, correspond

^a Clinique Med., translated by Spillan, p. 118.

^b Disorders of the Head. By S. O'Halloran, M.D. Case 17, p. 103.

^c Dublin Journal of Medicine, Sept., 1832, p. 42.

^d Dr. Sanders has noticed, as peculiarly appropriate to amnesia, the passage from Virgil, viz. :—"Memini, si verba tenerem," which M. Dax takes as a motto for his work. It would be so, but that, unfortunately, the word "*numeros*" is omitted by M. Dax. In Virgil it means :—"I remember the music of the Idyll, but I forget the words."

also in function; or, secondly, that the situation of the centre of speech in the left hemisphere implies a great preponderance of that side of the brain over the other in their working capacities, just as we speak, in mercantile phrase, of the acting and sleeping partners in a firm. This latter possibility has been ingeniously defended by Dr. Moxon.^a

Of the nine cases of left hemiplegia above noticed by me, eight had no defect of speech worth notice, the ninth was quite exceptional.

Margaret Neil, aged forty-five, was admitted to the infirmary, January 31, 1867. She had total hemiplegia of the *left* side, anesthesia, and loss of speech. Emotions greatly disturbed. Omitting details, the state of her speech eight weeks after admission was as follows:—pronunciation very good; she articulates long words, as “Constantinople,” perfectly, and with the proper syllabic accent. Her memory of words is much injured; when shown familiar objects, she seems trying her best efforts to recall the name—“’tis ah! ’tis ah!”—and gives it up. On suggesting a name not that of the object, she gets offended—crying out:—“Ah! no.” On hinting the missing word, she is pleased, repeats it distinctly, but soon forgets it again. In her replies to me she says “Yes, ma’am,” or “No, ma’am,” much to the amusement of the students. Asked to tell her name, she pauses, and replies:—“I can’t tell it, but I know it;” on prompting her, she repeats it with a laugh. She cannot calculate beyond twice two, and has lost the power to read. She cannot *commence* the series of months, but when January is mentioned she goes on pretty well, with a gap here and there. At the present time (July 1st), her memory of words has much improved; she is able to walk, the left arm has also partially recovered. In this case the two kinds of memory are to be distinguished. She *recognized* the word wanted, when it was suggested to her, but could not *reproduce* it.

It is to be regretted that collections of cases, like those of Dr. Bright, do not assist us much, the state of the faculty of speech not being always given. As far as they go, they support the more constant connexion of dextral paralysis with loss of speech. He gives, however, five cases of left hemiplegia, viz.:—cases 85, 140, 145, 158, 160, in which speech was involved.

The next forward movement was made by M. Paul Broca, in

^a Med. Chir. Rev., April, 1866.

1861, and was more a stride than a step. His doctrine fixes with more rigorous precision than that of M. Dax, the seat of aphasia, namely, the third external or inferior frontal convolution of the left side of the brain. In this he not only accords with M. Dax in giving speech a unilateral seat; but his dissections have led him to localize it in a gyrus as far removed as possible from the right hemisphere. Were we to estimate the preponderance of the left over the right hemisphere in speech-power, by their distances from Broca's convolution as centre, measured inversely by their squares, it might give us something tangible. But all vain speculations must bend to practical facts.

The following case bears on M. Broca's views:—

Mitral Disease—Hemiplegia—Aphasia—Death from Pneumonia—Embolism.—Mary Murphy, aged sixty, was admitted to the Union Hospital, April, 1865, with right hemiplegia and defective speech. She was in hospital various times during eighteen months, so that her speech was tested from time to time. The memory of words was very defective and the articulation confused; for “thank you sir,” she said “fancy sell,” and being asked what her husband, a pedlar, sold, replied, “procties and pudding-pans,” which we found out meant “brooches and bosom-pins.” It was found that she had stenosis of the mitral valve, leading to the supposition of embolism as the cause of the paralysis. The right arm was rigidly flexed, the leg was weak, but allowed her to walk with a stick, the emotional powers very much disturbed, the intellect tolerably clear; especially on money matters. In hospital she went by the name of “the serjeant,” from the state of discipline in which she kept the patients, using her stick on occasion. We could not test her by books, as she could not read; some words she constantly misapplied. Her attempts at speech utterly failed to convey any meaning. She died of pneumonia after a few days' illness. The right lung was much hepatized; the heart covered with fat; the left auricle contained a decolourized clot moulded to its walls; buff-coloured plugs extended for two inches into the pulmonary veins, and similar emboli blocked up the right cavities and pulmonary artery. The mitral orifice was narrow, its margins ossified, vegetations were on the auricular surface, the aortic valves were sound. There was much effusion of serum under the arachnoid membrane, the right hemisphere was healthy, except some venous dots sprinkled over the centre of Vieussens, and a little fluid in the ventricle. On careful examination of the left hemisphere, the convolution of Broca was

softer in consistence than the neighbouring parts, and the remains of an apoplectic cyst, of the size of an almond and empty, but with erosion of its floor, was situated close to the anterior third of the corpus striatum and running parallel to its course. No emboli were found in the cerebral arteries. The preparations were laid before the Cork Medical Society.

These remarks would be imperfect without alluding to a point so much contested as the name. The term *Aphasia*, from its simplicity and softness of sound, has come into such general favour that it could not now be changed without much confusion. It is a poetic word used by Homer and Euripides (Sophocles nowhere employs it), and by prose writers, such as Herodian, is applied to collective bodies; but in no place does it mean more than a *temporary* failure of words under strong emotion. None of the great medical writers have applied it to loss of speech from disease. The luxuriance of the Greek language was such that as many as ten or more verbs were formed to indicate the delicate shades of expression, but the terms most in use amongst the Greek physicians for loss of voice and speech, were *Aphonia* and *Anaudia*, which were sometimes, as Cælius Aurelianus tells us,^a interchanged, but the latter word was more usually applied to a loss of the power of speaking, in which sense it occurs in two passages of the *Septem Contra Theb.* of Æschylus.^b Sometimes loss of speech or of voice was expressed by a periphrasis, such as “*apocope vocis*,” or “*abscissio*,” or “*amputatio vocis*,” as was used by Avicenna. As to the other names they need not detain us long. The *Aphemia* of M. Broca is a word not in use, and rests, according to R. Stephens, on questionable authority. His *Aphrasia* is also a coinage, and would imply a defect in grammatical more than in physiological speech. *Alalia* is a favourite in France. It does not occur in any Greek writer, or in any lexicon that I know of, except Brunck’s on Sophocles, and then in a different sense; its adjective, *alalos*, *dumb*, occurs in the Greek Testament^c and in Æschylus, and its simple word, *lalia*, means more the subject and form than the power of speech.^d Lastly, of *Aphthenxia* as a fit epithet for loss of the ability of utterance, I have already spoken in the number of this Journal for November, 1865.

^a Cæl. Aur. de Morb., p. 96.

^b V. 82 and 892, and Blomfield’s Glossary.

^c Mark ix., 17.

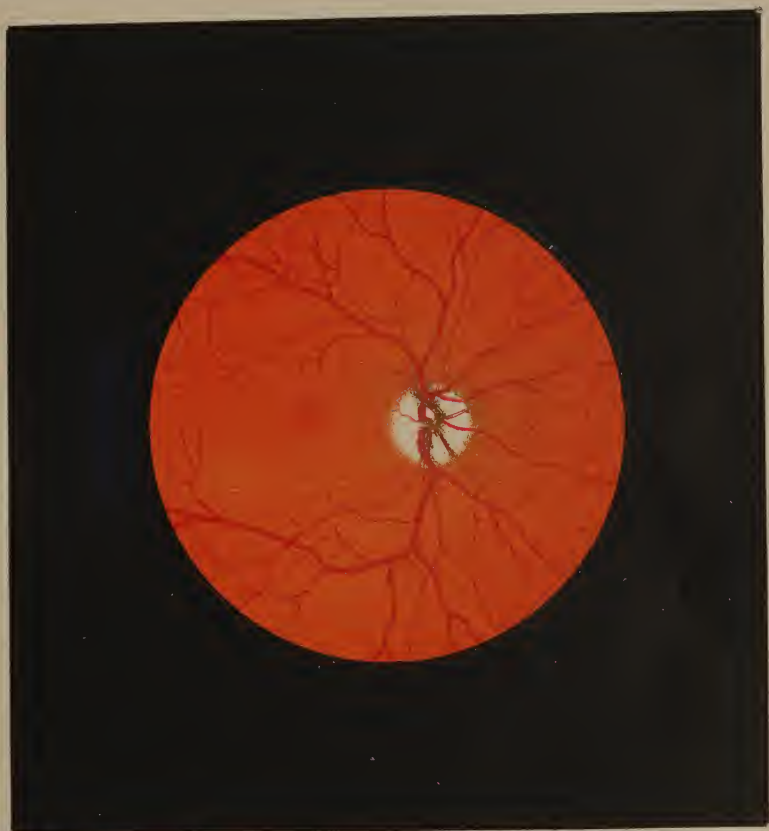
^d Matt. xxvi., 73.

In conclusion we owe M. Broca much praise for directing attention to a subject too much forgotten. Careful investigations in the present direction must lead to new discoveries upon the whole subject of language.

ART. II.—*On the Examination of the Eye with the Ophthalmoscope.*

By HENRY WILSON, F.R.C.S.; L.K. & Q.C.P.; Member of the Royal Irish Academy, &c., &c.

IN order to examine the interior of the eye with the ophthalmoscope, it is necessary to have a suitable illumination in a darkened apartment; any ordinary oil lamp with its globe removed will answer the purpose; all that is required is a steady broad flame; it need not be very large or very brilliant; on the contrary, I would rather recommend a subdued light as being more grateful to the patient and more suitable for the recognition of the finer details. We may be occasionally compelled to employ a candle, but it affords too small a body of light, and its flame is too unsteady and too narrow for a satisfactory illumination, or for general use. When I am called on to examine patients at their own homes, I generally bring with me the little lamp of Smith and Beck's fixed ophthalmoscope; a conveniently small and portable lamp for ophthalmoscopic purposes is much to be desired. The lamp I habitually employ, both in my own house and in the Richmond Hospital, is a German reading lamp, with its shade removed; as may be seen in Fig. 1, that part of the lamp which carries the flame is movable on an upright stem, so that the light may be fixed at any convenient height, or any desired position. Gas affords a most excellent source of illumination; but the flickering and unsteadiness common to gas jets should be prevented; the steadiest ordinary gas jets are those supplied by dry meters. The best form of gas bracket I am acquainted with is that which I had put up in St. Mark's Ophthalmic Hospital in 1859, similar to the one used in the Royal London Ophthalmic Hospital. It has an argand burner closed beneath with fine wire gauze, which equalizes the supply of air and causes a uniform draught and a steady flame. The bracket possesses universal motion, and the flame always remains vertical in consequence of a parallel rod attached to one of the arms. This lamp affords likewise one of the best sources of artificial illumination for laryngoscopic or aural examinations, and may be supplied with metal chimneys, perforated



Morison, Lith. Dublin.



in any desired manner. For ophthalmoscopic purposes it is well to have the glass chimneys faintly tinged with blue, so as to modify the light. The flame should occupy a position behind the examined eye, so that its rays shall not directly impinge on the eye. I prefer, as a rule, having the light in one given position—a little above and behind the middle of the patient's head; others, however, prefer the light behind and to the side of the patient's right ear; and this position is probably the best where the examiner uses his right eye only. All direct sunbeams or other light which might interfere with the rays going to or from the examined eye, must be avoided. It is, however, not necessary that daylight should be completely excluded; a small amount of diffused and modified daylight may be present, and will be found very convenient. Sunlight is also employed in ophthalmoscopy, but principally in warm climates, and where the facilities we possess in our cities cannot be had. It is admitted through a circular orifice in the window, shutter, or door, or reflected by a plain mirror into the darkened chamber through the open door or window.

The eye should always be first examined without dilating the pupil artificially, as there are various objections to the latter proceeding. When the patient sits with his back to the light for a few minutes in the darkened chamber, and regards some distant object, the pupil will generally be found sufficiently dilated naturally for an experienced examiner to see the fundus, and to ascertain, in a large number of instances, the cause of the impaired vision. If, however, the pupil remain too small, or it be desirable or necessary to obtain a view of the whole of the lens or of the fundus, it can be readily dilated at any time; for the purposes of teaching, demonstrating, or learning also, it is well to have the pupil dilated; the substance used for the purpose is belladonna or its alkaloid atropia, the latter being preferable on account both of its activity and its cleanliness; half a grain or a grain of sulphate of atropia to the ounce of distilled water will suffice to dilate the pupil in healthy eyes in about half an hour (the strength of the solution I generally employ in diseased conditions of the cornea, iris, or lens, is one grain to the drachm). Where much inconvenience may arise, or cosmetic effects demand it, the pupil may be again contracted by a solution of the extract of Calabar bean.

Prior to studying on the human eye it is advisable to practice ophthalmoscopic illumination of other objects. The beginner should take the plate representing the arteria centralis retina in

Gray's Anatomy, or the accompanying chromo-lithograph, place it upright in front of a lamp or candle, so that it shall be in the shade, and then practice illuminating it from various positions, with and without the interposition of the lens, and with each eye alternately. Rabbit's eyes afford an easy and a beautiful object for study; the fundus in these animals differs, however, from that of the human eye; the eyes of persons, who are completely and incurably blind from cerebral disease, may be selected by the beginner, with advantage to himself, and without inconvenience to the patient; highly myopic eyes should also be selected, as the fundus becomes very readily visible.

The following observations refer, in particular, to the examination of the reversed or aërial image with Liebreich's small ophthalmoscope. The patient should be comfortably seated beside or with his back to a table, on which the light is placed; he should hold his head fully erect in one fixed position, and not move it about from side to side. The examiner should occupy a seat a little higher than that of the patient, and have his eyes on a somewhat higher level than those of the patient; he should also fairly front the observed. The distance between the two faces must depend on the refractive condition and the power of accommodation of both eyes. When these are normal it will be about eighteen inches—a short and convenient distance. I myself prefer standing in front of the patient for short examinations, and having the patient's head slightly inclined backwards, with the light vertically above and a little behind it. When dexterity and facility in examining have been acquired, this method affords many advantages; it allows of greater control over the patient; the examiner can move more readily in all directions, practice oblique illumination, and examine a number of cases in succession more expeditiously.

All preliminaries being now arranged, and the left eye the one to be examined, the transparent media are to be observed by oblique illumination; and when it has been ascertained that these are transparent, the mirror is to be applied into the angle formed by the eyebrow and nose on the left side somewhat in the same manner as an eyeglass; the central aperture in the mirror should then be opposite the observer's pupil; the handle of the instrument is to be held horizontal, its extremity being grasped somewhat in the same manner as a flute between the thumb below and the three first fingers above; the little finger should be free, project beyond the handle, and be held erect, as shown in Fig. 1. The upper

arm may be retained at the side, or, as in the cut, project from and be at right angles with the body. While being kept close pressed into the angle between the nose and eyebrow, the mirror should be moved vertically by rolling the handle between the fingers and thumb, and horizontally by movements of the handle backwards and forwards until the light is made to fall on the eye under examination. It is most important to recollect that the patient and examiner must retain their original facing position.

Fig. 1.



The right or non-examining eye may be kept open so as to control the patient's movements and the proper position of the reflected light; it should, however, be occasionally closed, so as to make sure that the left or examining eye is looking through the ophthalmoscope opening. When the patient is unsteady it is advisable, in the beginning of the examination, to place the open right hand on his head, so as to keep it in the erect position, and prevent its moving. The examination having proceeded thus far, and the eye being now fairly and steadily illumined, the observer should perceive a brilliant red glow behind the pupil, which will be fixed or transitory according as the illumination or position is properly maintained or not. The patient is now desired to regard (without moving his head) the point of the observer's erect little finger, and when he has done so the red brilliancy will assume a somewhat white character, which indicates that the optic nerve entrance is then in the exact visual line. While the patient keeps

steadily regarding the point of the little finger the examiner takes one of the large convex lenses—two inch focus—between the finger and thumb of his right hand, and holds it about two inches in front of the eye in such a manner that the rays from the mirror shall traverse it before entering the examined eye; the hand carrying the lens may be steadied by resting the little finger on the malar bone or brow of the patient. The iris should not enter into the formation of the visual field; the lens must be moved to and fro until the image of that membrane and its pupillary margin disappear altogether, and nothing remains but the circular bright red field. These directions being followed, and the patient's and examiner's eyes being normal, the latter should perceive the image of the fundus, as shown in Plate I. In regarding this image, its position between the lens and the observer should not be forgotten, and the latter should, therefore, not endeavour to look through the lens, but should accommodate or adjust his vision for a near distance, and suppress the vision of his right eye. The lens must be moved from or approximated to the observed eye, or moved on its axis until the greatest degree of distinctness in the image is obtained; it must also be held quite vertically (to the axis of the eye), as otherwise inaccuracies, deceptions, or distortions may arise, which would lead to erroneous conclusions.

The entrance of the optic nerve into the eye is not exactly in the optic axis, but a little below and to its inside, having the yellow spot external to and on a level a little above it; the patient's eye must, therefore, be turned inwards and a little upwards, in order to bring the optic disc into the visual line, and the point of the erect little finger affords the most convenient and generally the best object for fixation. When it is wished to observe the position of the yellow spot or its vicinity, the little finger is closed, and the index finger is raised close to the mirror for the patient to regard; in this manner each finger may be raised successively, and a prolonged and steady examination made of the most important portions of the fundus. The little finger may be armed with a bright polished metallic thimble, which will readily attract the attention of amblyopic^a persons.

In the examination of the right eye the proceeding should be

^a The term *amblyopia* is used to denote *impaired vision*, attributable to any cause other than anomalies of refraction. *Amaurosis* is now almost exclusively used to denote *total blindness*, without even perception of light (dependent generally upon cerebral disease).

similar to that just mentioned, except that the ophthalmoscope is to be held in the right hand and to the right eye, and the lens in the left hand. We should in all instances make a comparative examination of both eyes.

I would particularly recommend this mode of examination to all who have equal vision in both eyes; it affords great facilities; the optic papilla comes into view the moment the patient regards the point of the extended little finger, and the hand carrying the lens is never in the way. When from imperfect vision in one eye, or other cause, the examiner can only use one of his eyes, he should have the light placed beside and a little behind the patient on the side of the examining eye, and direct the patient to look inwards and a little upwards towards the examiner's ear; thus, if the right eye be the examining one, the light is to be placed on the patient's left side, no matter which eye is to be observed; and if the left be the examining eye the light should be on the patient's right side; the ophthalmoscope is to be held by the hand on the same side as the observing eye, and the lens in the opposite hand; by this means the illuminating rays are not intercepted. Where the patient is quite blind, or from other cause cannot fix his vision on the little finger, or in children, the examination is more difficult; in the case of adults the individual's hand may be placed in the wished-for position, and the person desired to look towards it; in the case of children the parent or attendant should occupy the position the child is to regard, and attract its attention by speaking to it, or holding up a watch or other bright object. If we fail by these means to obtain a view of the optic disc, we must alter our position. While the patient retains his head erect, and looks straight in front, the observer moves to the temporal side of the eye under examination, and getting about a three-quarter view of the patient's face, illumines the fundus in that position, when he will, as a rule, be able, with some little difficulty, to obtain the desired view. Where the eyelids are not opened sufficiently wide, the upper lid may generally be raised by the two middle fingers of the hand carrying the lens, these being disengaged while the thumb and index finger hold the lens, and the little finger rests on the malar bone. It should be our object, first, to obtain as extensive and general a view of the fundus as possible, so that any isolated irregularity or lesion will present itself at once as contrasting with the surrounding parts; and we should endeavour to have the optic nerve forming the centre of the picture. A slightly

concave, or even a plane mirror, and a convex lens of $1\frac{1}{2}$ " focus will give the desired results. Subsequently the individual portions may be magnified by low-powered object lenses, such as those of 3" or 4" focus, or by magnifying the aerial image by a convex ocular lens inserted into the clip behind the mirror.

The beginner must guard against being led into error by the *reflections* which are caused by the cornea and the convex lens; these reflections are at all times more or less present, and are sometimes very embarrassing. One of these reflections is a small but exact image of the ophthalmoscope mirror, and is liable to be mistaken for the optic disc. It may, however, be distinguished from this by the dark spot in the centre, answering to the orifice in the mirror, by the absence of vessels and by its position; these reflections may generally be obviated by slight movements of the lens on its axis, and to and fro. Occasionally a thread or film of mucus adheres to the cornea, and simulates, at first sight, an opacity in the transparent media; when such occurs it must be removed by gently rubbing the upper lid over the globe.

The student must not be discouraged by getting mere momentary and passing glimpses of the optic disc. It requires considerable practice before we are able to obtain a steady and prolonged view of the parts. When the disc comes into view, and then suddenly disappears, it is attributable to some movement or unsteadiness on the part of either examiner or patient—most frequently, I think, of the former. When in searching for the optic papilla, a vessel comes into view, it should be steadily regarded and traced backwards in the direction of its increasing thickness, until finally the papilla is found where the vessel appears to terminate.

As I have already explained, the convex object lens produces the inverted image; and in reference to this image Mr. Carter, in his excellent translation of Zander's *Augenspiegel*, or rather his new, improved, and annotated edition of that work, says:—"In order to understand clearly the effect of the inversion, it is well to take a piece of thin writing-paper, and to draw upon it a circle to represent the fundus of the left eye of a person placed opposite to the spectator.

Su

The circle may be surrounded by the letters Na Te, so arranged

In

as to indicate the superior, inferior, temporal, and nasal boundaries of the figure. To the nasal side of the centre a small circle may be drawn for the optic disc, with lines radiating chiefly towards the

temporal side to represent the blood-vessels. The sketch, as it stands, will give an idea of the erect image, with its temporal side to the right of the spectator and the vessels passing to the right. If the piece of paper be turned bottom upwards, with the written side still towards the spectator, the ordinary conditions of the inverted image will be fulfilled, and the inversion of all parts will be complete."

The accompanying chromo-lithograph, copied partly from Jaeger's *Beiträge zur Pathologie des Auges*, gives an idea of what the student is to look for; it represents the inverted image of the fundus of a healthy left eye, of a dark-complexioned adult. Although emanating from a concave surface, the image, as seen by the monocular ophthalmoscope, presents a flat appearance; at its centre is the optic papilla, contrasting markedly by its whitish colour with the surrounding parts, which are of a brilliant uniform red colour, traversed by fine dark-coloured lines, representing the retinal vessels. The red colour varies according to the individual; it may be a very pale or very dark red, or may contain a yellow or orange, or even a greyish tint. The fundus, as already stated, consists of the optic nerve, the retina, choroid, sclerotic, and vessels and nerves belonging to these structures.

The intra-ocular end of the nerve, termed *optic papilla*, or *optic disc*, is circular or nearly so, and, as contrasting with the surrounding surface, appears of a white colour; it is, however, of a soft cream colour or pinkish grey, and not unfrequently conveys the idea of relief; it forms the most prominent and important feature in the image; it may be either sharply demarcated from the surrounding fundus, or may be partially or completely surrounded by one or two circles indicating the sclerotic and choroidal openings—the former white, the latter dark coloured. When the choroid is abundantly pigmented close up to the optic nerve, there is no appearance of the white or sclerotic ring round the disc, but when it is not we look down upon the sclerotic opening, which appears as a whitish ring round the nerve. Occasionally we find at one side—generally the outside—of the disc a very dark or black semi-circular line; this is simply an accumulation of pigment in the choroid at this situation, and is seen in perfectly healthy eyes. Starting from the centre of the disc we find the branches of the centralis retinae artery and vein, the former are the smaller of the two sets, and light red in colour. As a rule the artery, after emerging from the porus opticus, divides into two main stems, one

above and the other below; these subdivide and branch out into numerous small stems, which take a direction towards the temporal side, coursing somewhat circularly round the yellow spot towards the periphery of the retina. The course of the veins is similar, both sets of vessels avoiding the yellow spot; the veins are larger in calibre, darker in colour, and a little tortuous; in addition to these larger branches several minute ones may be seen ramifying on the disc. The vessels do not usually subdivide until after leaving the disc; they do not always pass through the nerve in one and the same opening, and one vessel is often seen to cross the other—sometimes the artery beneath, sometimes the vein. In the drawing the artery is seen to cross the vein above, and to pass beneath the vein on the lower part of the disc. Occasionally the disc presents a slightly mottled appearance, attributable to a number of small oval, dark, or bluish spots; this appearance is due to the anatomical arrangement; the intraocular portion of the nerve being almost transparent, we can see completely through it as far as the *lamina cribrosa*, which reflects the light very strongly; occasionally some of the nerve tubules continue transparent for some distance on the cranial side of the perforated plate, and we are thus enabled to look down into them beyond the cribriform plate; hence they appear as dark spots, while the lamina cribrosa itself appears as a glistening white surface. It is not uncommon to find in the centre of the disc a depression; this may be of greater or less magnitude and simulate the cupped optic nerve seen in glaucoma. This *physiological excavation*, as it is termed, is due to the circumstance of the nerve fibres bending round suddenly at right angles into the retina, leaving a space at the centre between them; it is seen as a bright white spot, generally at the outside (real) of the papilla, or it may appear as an extensive cup-like depression of the nerve. In this normal excavation, however, the margin of the depression never corresponds with the margin of the nerve disc, which it usually does in glaucomatic excavation. Another remarkable physiological phenomenon consists in the visible pulsation of the veins of the disc, which is not a very uncommon appearance during health; it is confined to the veins, and does not occur outside the optic disc. This *venous pulsation* is attributed to the temporarily increased intraocular pressure caused by the influx of blood brought to the eye by the arteries at each systole of the heart; an increase in volume occurs in the coats of the globe and compresses the vitreous humour, which on its part reacts and presses on the veins, they being the most

yielding parts; a complete or partial momentary stoppage of the column of blood in the vein is thus produced, and as soon as the transient pressure is removed the vein expands and the arrested column passes rapidly on. Immediately after the pulsation at the wrist the vein may be seen to fill from its peripheral end, and then, after a moment, to empty. This venous and normal pulse must not be confounded with an *arterial pulsation*, which only occurs during disease, when the pressure of the vitreous is continuous and greater than the lateral pressure exerted in the artery itself. This pulse cannot be easily mistaken, as it occurs synchronously with the systole of the heart; it appears as a rhythmical movement of the red column of blood, and as the vessel appears empty during the diastole of the heart. Both these pulses may be produced by pressing on the outside of the globe with one of the disengaged fingers of the hand carrying the lens. Slight pressure will, as a rule, suffice to produce the venous pulse; if the pressure be kept up steadily and firmly the venous pulse ceases, the optic papilla pales, the veins empty, and the arteries pulsate, and dimness of vision ensues. When on slight pressure being made the arterial pulse becomes apparent, it shows that the intraocular pressure is already abnormally great. The physiological explanation of the arterial pulse was first given by von Gräfe, who likewise drew attention to its great practical importance and significance in the diagnosis of glaucoma.

In shape the optic papilla is, as a rule, circular. Sometimes, however, it is oval from above downwards, and very rarely horizontally oval. Whenever it is seen to vary from the circular shape, we should be on our guard and satisfy ourselves that it is actually anatomically oval, for by a false position of the lens its shape may be distorted. In case the papilla appears oval in the reversed image, we should examine it by the direct method, and *vice versa*, as a comparison of the results of both methods may lead to the recognition of a rare anomaly of refraction—astigmatism. Minute spots of pigment have, on rare occasions, been observed as congenital peculiarities on the optic papilla of normal eyes.

The *retina* cannot, as a rule, be distinctly seen during health; it is, if not perfectly transparent, at all events highly translucent, and we look through it on to the choroid. When the choroid is deeply coloured with abundant dark pigment, the retina may be indistinctly visible as a slightly greyish cobweb-like membrane; occasionally delicate, isolated lines, representing the nerve fibres, may be

detected radiating towards the periphery. The presence of the retina may, however, always be recognized by means of the branches of the arteria and venacentralis retina, which, after passing the disc, course towards the periphery in the nerve-fibre layer of the retina. These vessels are, as I have stated, distinguished by their size and colour. The arteries are small, and filled with bright red blood, while the veins are larger, somewhat more tortuous, and of a darker colour. The arteries appear sometimes as if transparent along the centre of the vessel, or, which is the same, as if the lateral walls were opaque; this is, however, solely owing to the reflection of light, in the direction of its incidence, from the most prominent part of the vessel (that towards the observer). The retinal vessels appear almost to stand out in relief, and are easily visible. When one of these comes into view, while the observer is looking for the optic disc, he should trace it backwards in the direction of its increasing thickness, or in the contrary direction to that in which its vessels are given off.

The *macula lutea*, or yellow spot of Sæmmering, is situated to the outside of the optic disc in the retina. Its position in the inverted image is indicated by the dark shading in Plate I. to the inside or left-hand side of the disc. This so-called yellow spot is only exceptionally to be distinctly recognized; its position may, however, be at all times easily seen. The patient should regard the image of the flame in the mirror, or the point of the erect index finger of the hand carrying the ophthalmoscope, the finger being close beside the mirror. The position of the yellow spot is characterized ophthalmoscopically by the absence of retinal vessels of any size, and by the dark colouration which is due to a more abundant pigmentation of the choroid at this than at other places. The fovea centralis is said to appear as a small, bright spot about the middle of this dark-coloured portion. Those wishing to study this part more particularly should employ a plane mirror, with a concave lens behind it, and get the observed to regard steadily the flame of the image in the mirror; there will then be formed an image of the flame, or part of it, on the fovea centralis.

The *choroid* membrane lies beneath the retina, and forms one of the most important features in the ophthalmoscopic image, as to it is due the peculiar red colour of the fundus; in the examination we are, in fact, regarding not the retina but the choroid. The colour of the fundus depends on the illumination and on the pigmentation of the choroid and its epithelial layer; it is a bright blood-red, with an

admixture of yellowish brown due to the blood in the tunica vasculosa and the chorio capillaris; and to the pigment in the stroma and in the epithelial layer; in fair and blonde persons the amount of pigment in the cells is small, and the fundus appears of a light yellow red, whereas in dark-complexioned individuals, with brown or black irides, the pigment is abundant, and the fundus appears of a brown red. Dark, brown, or black spots, with irregular outlines, are of not uncommon occurrence in the fundus of healthy eyes; they are simply accumulations of pigment corpuscles, and are most frequently seen at the outside of the optic nerve entrance. As a rule, the fundus presents a uniform colour, and a faintly granular or stippled appearance, in front of which the retinal vessels stand out in relief; or the retina itself may be recognizable as a delicate bluish grey film in front of the dark choroid. Occasionally the internal (epithelial) layer of pigment is so scanty and diaphanous that we are able to see the large choroidal vessels through it; these are always of a lighter colour, and are likewise broader than the retinal vessels; they are likened to flattened ribands, of a yellowish or orange tinge; they are not sharply defined, take a winding course, anastomose, and divide frequently, and may be distinctly seen lying beneath the retina; by fixing a large dark retinal vein, we can satisfy ourselves of the existence of a space between it and the choroidal vessel, and by means of the binocular ophthalmoscope this relation becomes very manifest. Occasionally the pigment is so abundant and dark in the meshes of the stroma between the vessels, and so scanty in the epithelial layer, that the choroid appears as if mapped out into irregular, angular, dark, island-like spaces, bounded by yellowish lines, the latter representing the large choroidal vessels. In healthy eyes the fundus should be perfectly clear and brilliant, without any haziness or indistinctness of its parts. At the entrance of the optic nerve into the globe the choroid appears sometimes as a dark circle or half circle around the nerve.

The *sclerotic*, although entering into the formation of the fundus, is but rarely visible during health, being concealed by the choroid; it contributes, probably, in a slight degree, to the colouration of the ophthalmoscopic image. Occasionally a small circle of this membrane is exposed around the optic disc at the nerve entrance, and appears of a brilliant white, or tendinous aspect. As a result of pathological alterations, this membrane frequently becomes visible.

ART. III.—*On Maxillary Dislocation and its Reductions.* By DILLON KELLY, M.R.C.S.I.; Medical Officer of the Milltown Dispensary, Co. Westmeath.

FROM the era of Hippocrates to the days of Fabricius ab Aqua pendente, it was a generally received opinion that death on the tenth day would be the consequence of an unreduced dislocation of the lower maxilla—an opinion, by the way, which goes a great length in proving that not only the enunciator of that aphorism, and all echoing it, had never seen an unreduced case of such a dislocation. Here then we have an admission of the reverence and slavish veneration for the enunciation of a great man, keeping, as it were, the thought and induction of the surgeon in complete abeyance for a period of fully two thousand five hundred years, a lesson well calculated to call into active operation the faculties of every reflecting member of the profession, a lesson never to be forgotten by the routinist. Sir Astley Cooper was, I believe, the first English surgeon who showed the fallacy of that opinion. And in the first edition of Samuel Cooper's "first lines," published in 1801, we find the following statement:—

"It is evident from the circumstances in which a person with a dislocated jaw is placed, that very severe complaints and even death itself may follow the accident if no relief should be given." Which, to a certain extent, proves that he also was a believer in the Hippocratic aphorism. In the later editions of his dictionary, however, he partially advocates a different opinion. Yet, at the same time, in deference, apparently, to some unacknowledged authority, he again falls into the error of asserting that during the first five days the patient cannot speak, and, according to Boyer, cannot even swallow. The greater attention paid to those accidents by modern surgeons has completely demonstrated the fallacy of those most absurd opinions; for were they correct, we could never see a living example of an unreduced maxillary dislocation.

Since then, however, cases of unreduced maxillary dislocation have turned up, proving not only the fallacy of those opinions, but also that errors in surgical diagnosis and practice are not, like the Crusades, curiosities of the middle ages.

We need not, however, wonder at the assertion of Hippocrates, when we recollect that Sir Astley Cooper, in his surgical essays, in remarks on dislocations, mentions, on the authority of Mr. Cline,

that Mr. Samuel Sharpe, who was surgeon to Guy's Hospital, and had besides a large share of practice in the city, did not believe that such an accident as a dislocation of the thigh bone had ever happened.

The profession at the present day hold various opinions as to the causes preventing the reduction of a maxillary dislocation, Sir A. Cooper, Petit, &c., asserting that, when once the condyles of the inferior maxilla are thrown in front of the transverse roots of the zygomas muscular contraction, is the sole agent concerned in preventing their return to their normal positions.

Whilst Boyer and others believe the great obstacles to reduction to be the transverse roots of the zygomas themselves, which descend behind the condyles, one of these processes are hitched against their anterior inferior aspects, and kept so by the continued action of the elevating muscles.

M. Malgaigne, however, dissents, in toto, from the latter opinion, asserting, from experiments on the dead subject, that in depression of the lower-jaw the condyles invariably glide over the transverse roots of the zygomas, and, therefore, that what all surgeons of the present day regarded as a dislocation, was but the normal position of these processes, and that one can at any moment produce in their own persons all the symptoms of dislocation, pain, and the necessity for reduction, alone excepted.

That M. Malgaigne's theory is partly true is easily demonstrable by any surgeon, who, by simply opening his mouth and placing his finger over one of the condyles, will at once feel that process descending along the transverse root of the zygomas. In so far, therefore, he is correct; but to produce the simulation of a perfect luxation, it is also necessary that the maxilla should be protruded forward at the same time.

Therefore, although the normal position of the condyles during depression of the lower maxilla, is, to a certain extent, anterior to the transverse roots of the zygomas, this does not go to the whole length of constituting that abnormal position of the articulations which, occurring during the processes of sudden and violent depression and protrusion of the maxilla, is sufficient to produce its complete dislocation. M. Nélaton, seeing the inconsequence of the reasoning in this theory as determined by induction, and throwing increased muscular action overboard altogether, teaches that the chief obstacle to reduction of the maxilla must be sought for, not in the articulation itself, but parts in its vicinity. Starting from this

point, then, he asserts, from experiments also on the dead subject, that the cause preventing reduction, is not situate in the articulation, but dependent on the altered relations of the coronoid processes and the malar bones.

According to his theory, the apex of that process comes in contact with the malar bone, becomes hitched against its posterior inferior margin, and firmly locked in that position, not by muscular contraction, but by the abnormal length of the coronoid processes in certain subjects.

Now this is but a begging of the question, as it is evident from the above premises, that no such thing as a dislocation of the maxilla could occur, unless nature should be too bountiful to the unfortunate subject of such an accident in the article of jaw.

But there is nothing new under the sun, as M. Beaugrand clearly shows, who proves by extracts from Fabricius ab Aqua pendente, Bichât, Delpech, and Professor Smith, that they too held similar opinions concerning the position of the coronoid processes in this dislocation. But that both Malgaigne and Nélaton were in error in their deductions from experiments on the dead subject, must be evident, when we consider that in such cases there can be no such thing as muscular antagonism, a power playing the most important part in the theory of every dislocation, but more especially in that of the lower jaw, where the action of the elevators so preponderates over that of depressors.

If we study the physiology of the muscles of the lower maxillary articulations, we shall find that the external pterygoids, in consequence of the direction of their fibres being nearly at right angles with that of the temporals, masseters, and internal pterygoids, must, as a consequence, act at nearly right angles with the action of those latter muscles, they also being the principal muscles in carrying the lower jaw forward; that being assisted, to a certain extent, in that office by the superficial portions of the masseters and internal pterygoids, those being the proper grinding muscles, their actions must, as a thing of course, be associated with the motions of those muscles, and act simultaneously with them. Now, Mr. J. P. Vincent has shown very clearly that as almost all muscular actions are performed in reference to a centre, so when by any accident that centre is deranged, if an abnormal or a new centre can be readily formed, a new combination of muscular action is at once developed, as conformable as may be with the centre produced. When dislocation of the jaw takes place, a new centre is formed; and not only, therefore,

does the direction of the muscles involved in that dislocation become altered, but their lengths from their new positions become altered also. Thus the external pterygoids become considerably shortened, in consequence of the new positions of the condyles anterior to the transverse roots of the zygomae; whereas the internal must, to a certain extent, become elongated by the throwing backwards of the angles of the maxilla.

Now, admitting that the muscles adapt themselves to their new positions and centres, and that the external pterygoids must be considerably shorter in maxillary dislocations than in their normal states, it follows that a degree of spasm of these muscles must be present to account for their abnormal decurtation.

Assuming, therefore, that the internal pterygoids become elongated from the elevation and recession of the angles of the inferior maxilla, they, from an opposite cause, must be the subjects of spasmodic action also.

Here, then, we have two causes, both conducing to the same end, yet either of them, quite sufficient by itself, to produce all the phenomena of muscular spasm.

If, then, we admit that the centre of motion of any articulation being accidentally changed, the muscles of that articulation will, in consequence of the irritation assumed by all muscles, when they are forcibly thrown out of their line of action, take on or exert abnormal action of extraordinary power. We have, then, another cause sufficiently powerful not only to account for all the phenomena of maxillary dislocations, but also capable of opposing an almost insurmountable obstacle to their reduction. A moment's reflection on the appearances presented by such a dislocation must at once convince us that such an alteration has taken place. Continuing our examination, it will become evident that the external pterygoids, acting under the influence of the pathological law already enunciated, draw the condyles forward with almost irresistible force towards the pterygoid processes of the sphenoid, and hitch them against the transverse roots of the zygomae, which thus become their *points d'appui*, and produce a sort of dove-tailing between the depressions on their necks and the ridges constituting those roots. That the remaining elevators of the articulation are not in a state of quiescence, may be inferred when we take into consideration the direction those muscles assume in the new arrangement of the centre of motion, the internal pterygoids drawing the maxilla upwards and forwards, whilst the masseters and temporals draw it upwards and backwards.

Here, then, we have, in like manner, another combination of forces, almost diametrically opposed to each other, yet all tending to the same end, and requiring, I think, no great stretch of the imagination to presume that the increase of muscular action developed in consequence must be the chief obstacle to the reduction of such a dislocation.

To M. Nelaton, however, is the merit due of being the first to act on the inference derived from what he supposed the chief obstacle to reduction, and of practically applying means based on that inference, by directing the patient to open his mouth as wide as possible when about to reduce a maxillary dislocation; at the same time, that he completely overlooked the equally palpable inference to be drawn from his first step in the process of reduction, namely, the relaxation of all the muscles engaged in the dislocation by the action of opening the mouth.

Mr. Vincent, in his work on associated muscular action already referred to, observes:—

“That the overpowering strength which a muscle is brought to exert when its usual direction of action, about a centre, is forcibly changed, is another law of conditions of the utmost consequence to the surgeon.

“The dislocation of the patella on its edge is an example; the bone sets the extensors of the leg into action of the most violent kind, these muscles act most powerfully when the limb is to be straightened, and, in the condition in question, they act with a power that defies all the force that human aid can call to its service.

“Their force is also partly the effect of that irritation which all muscles get when they are thrown out of their ordinary line of action, particularly when they are disturbed in moving round their ordinary centre of motion. We have only to flex the leg a little, and all this powerful opposition to restoring the patella ceases on the slightest rotatory motion.

“The disturbed arrangement here, was the elevation of the centre of action of the extensors above the ordinary position, and as these muscles, in the straight position of the whole limb, are called upon to support a great proportion of the weight of the body, so when in that position, they are naturally impelled to exert vast force.

“But, in obedience to the associated action of combined muscles, when the leg is bent, and another order of motions in this complicated joint, brought into play—then, these extensor muscles immediately relax, as they would otherwise, by their action, prevent

the rotatory motion of the leg upon its axes; thus, the moment the leg was bent, the extensors returned into a comparative state of repose and left the patella quietly to resume its appointed position."

Acting on that principle, in May, 1839, I reduced, with the greatest ease, a maxillary dislocation produced by the retching of gestation in a stout young woman, the wife of a respectable trader in this town, to whom the same accident occurred repeatedly afterwards.

In March, 1847, Mary Thompson, aged fifty-five, a beggar-woman, of stout make, dislocated her lower jaw by falling against the end of her bed at night.

Her neighbours, in the morning, seeing she could not shut her mouth, unanimously were of opinion that she was "fairy-struck." Firmly believing in the truth of this superstition, she sought no surgical aid, and remained in a state of suffering for four days; yet at the same time making every effort to procure funds to bring her to a fairy practitioner at some distance.

Whilst thus engaged, she accidentally called on Mrs. F. for some relief, who at once recognized the nature of the accident, and sent her to me.

In this case also, notwithstanding the length of time that intervened, and the muscularity of the patient, I reduced the dislocation without the slightest difficulty.

Lastly, in August, 1850, J. M'Donnell, aged about thirty, tall and rather muscular, having gone to the funeral of a friend, and drank too freely, the violent retching that succeeded dislocated his lower jaw. Being up to that period a teetotaller, and not knowing what had occurred, or the nature of the accident, he and his family imagined he had suffered an infliction for breaking his pledge, from which he was destined never to recover; and I found him, in consequence, although still labouring under the effect of intoxication, in a state of the greatest distraction.

In this case too I was equally and instantaneously successful.

In accordance with the theory, therefore, of associated muscular action it is necessary, for the reduction of this dislocation, that the pterygoids, masseters, and temporals should be relaxed, as being the chief or opposing forces to its reduction. And to relax them, it is necessary that the digastricus, mylo-hyoid, stylo-hyoid, and genio-hyoid, or group forming the depressors of the lower jaw, should be called into action by opening the mouth.

To reduce it, therefore, place the balls of the thumbs, covered

with a handkerchief, on the crowns of the posterior molars, grasping the angles of the jaw externally with the fingers; then desire the patient to open the mouth, when the slightest pressure downwards, during the act of opening it, will be sufficient to disengage the necks of the condyles from the transverse roots of the zygomas, and will permit the temporals and masseters to at once reduce the dislocation by the reinduction of their normal action.

In conclusion, so easily is such a dislocation reduced in some subjects by that mode of treatment, that I instructed Mrs. F. in the manipulation, who was quite familiar with the accident, and who also became so familiar with the principle, that she was accustomed to reduce her own dislocations by pressure with her indices placed on the crowns of the posterior molars.

ART. IV.—*Remarks on Cholera.* By W. JACKSON CUMMINS, M.D., L.K. and Q.C.P.I., Physician to the Cork Dispensary and Blackrock Cholera District, &c., &c.

CATTLE plague and cholera threatened Ireland for a long time before they actually made their appearance; the one, a disease of admittedly contagious nature, the other with a doubtful character for contagion, but known to extend its ravages along the great paths of human intercourse.

We had time to prepare for both, and by adopting means applicable to each, the disasters which threatened have been in a great measure prevented.

A true "stamping out" process was adopted for the rinderpest; assuming that the disease only spreads by contagion, each case that occurred in the island was rigidly isolated, and all foci in which reproduction of its poison was possible, were utterly destroyed; success followed upon these measures, and, whether truly or not, we assume with more reason than ever that rinderpest is simply contagious, and that we have stamped it out.

But even if cholera were not unmistakably an epidemic disease, which, although portable by human beings, and possibly contagious, can wend its way from country to country without assistance from man, the necessities of civilization and commerce would render it impossible in these days of locomotion to apply the stamping out process for its prevention; and therefore, when cholera threatened, we adopted what might be called a starving out system, by depriving

its poison of the local pabula necessary to the exercise of its power. As the colonist, aware of the impossibility of extinguishing the prairie fire, cuts away the withered herbage on which it feeds, and saves his homestead, so did we, acknowledging it hopeless to stay the onward march of the epidemic poison, endeavour to remove from our cities and houses, and from our own persons, the various conditions favourable to its onslaught. We believe that sanitary science which prompted this mode of dealing with epidemics mitigates much of their destructiveness. Diseases are not *exterminated* thereby; epidemics come and go as before—cholera, fever, small-pox, diphtheria, scarlatina, and many others in wave after wave rise and swell and disappear, but each succeeding wave is less destructive to life, and we may hope that in time, when sanitary science has become more perfect, the remote causes of diseases may pass over us without our being aware of their presence.

We can mark a gradual diminution of the mortality from cholera in each epidemic which has occurred since 1849, when the deaths in England and Wales amounted to 62 in every 10,000 of the population. In 1854 they decreased to 43 per 10,000; while in 1866 they were only 18 per 10,000.^a

But although the average mortality of the population from cholera has been thus gradually diminishing since 1849, the disease is still as fatal as ever among those attacked. In England, in 1832, 47 per cent. of the cases died; in 1848 and 1849, 45 per cent; in 1853 and 1854, 46 per cent. (Reynolds' *System of Medicine*); while in 1866 the mortality fully averages the highest of these; hence we would argue that the decrease in the number of deaths from cholera is not due to diminished intensity of the disease, but to the improved, and gradually improving, condition of our towns, and to the better habits of the people. We believe that cleanliness, good drainage, wholesome food, pure water, and other means whereby a healthy tone of mind and body are preserved, have already proved efficient

^a July 5th.—The author is indebted to the valuable reports on cholera by Drs. Hayden and Cruise, which appeared in the May number of this Journal, for the above figures. They are quoted by those gentlemen from the returns of the Registrar-General for England.

It may appear strange that no allusion has been made in the text to such an exhaustive record of the late cholera epidemic as that by Drs. Hayden and Cruise, nor to the lengthened discussion at the Medical Society of the College of Physicians of Dublin, published in the May number of the Quarterly. In explanation, the author begs to say that his paper was read at the Cork Medical Society last April, and sent in only a little too late for insertion in the May number of this Journal.

prophylactics against cholera, and in time it may be established that the poison of this and other diseases can no more destroy life, without the conditions which these means counteract, than fire can burn without fuel.

But assuming the poison of cholera to be a ferment, theory would lead us to suppose that it may be stamped out of our systems, and possibly also out of enclosed places, in which it has become localized by means which prevent fermentation from taking place.

Professor Polli led the way by his interesting experiments into a new department of prophylactics. He showed that catalytic action may be arrested within the body by the internal use of sulphurous acid in the form of bisulphites. Dr. De Ricci applied this new doctrine to the treatment of various forms of catalysis, and I have given it a successful trial in scarlatina and diphtheria (see *Dublin Quarterly Journal*, Vol. XXXIX).

As soon as cholera became epidemic in Cork, I determined to test the same principle in a different way; and anxious that others should also try it before the cessation of the epidemic, I published a few remarks on the subject in *The Dublin Medical Press* of Nov. 28th, 1866. Since that time sulphurous acid has been set free by burning sulphur in almost every house in which I had cholera under treatment; and the results have been sufficiently encouraging to make me consider them worth publishing.

The district which I attend is a peninsula on the eastern side of Cork, surrounded on all sides, except one, by the river. The soil is limestone, and the water supply precarious. The wells in most of the villages are so situated that the surface water and impurities of all kinds, in solution, drain into them, especially during heavy rains.

All epidemics of cholera have been severe in this district, and that of 1866 though far less severe and general than former ones, has had I should think in it at least one fourth of all the cases which occurred in Cork, although its population is comparatively small, and its poor far better off than in most other places.

In this district choleroid affections began to prevail towards the end of September, became exceedingly severe and general during October, one case only (an old woman) proving fatal.

On the 23rd, the first cases of true Asiatic cholera occurred—two in number—within one hundred yards distance of each other on the Blackrock-road; both children who had had no communication with any cases of cholera in the city; one of these died within

twenty-four hours, the other recovered. The corpse of the fatal case was visited shortly after death by some schoolfellows, and of these one was attacked on the 25th and another on the 29th. Both recovered after severe illnesses.

A brother of one of these was attacked on November 22nd, and died in sixteen hours. A third case, which recovered also, occurred eleven days after in the same house.

In the neighbourhood of these cases cholera appeared in three other houses, and about two miles nearer the city two cases occurred in one house. Between these latter points, and to the south of both, are situated two villages, Skeyhard and the Brick Yard, within an area of about half a mile, and running parallel to each other on different elevations, from east to west. They are separated by a gravelly hill, and connected by a lane at the western side, and by paths over the hill. The Brick Yard, which is the lower of the two, is on the edge of a branch of the river, which is a mud bank at low water. It consists of eleven houses (two of which were unoccupied) containing fifty inhabitants. The river, village, and a considerable area of low land and swampy islands, lie in a basin formed by hills surrounding it on all sides except that toward the tideway on the east.

A large well, sunk under low water mark is, I believe, the sole water supply of this village, and partly also of Skeyhard, but another and purer well which is within a mile or so of the latter, is to some extent availed of.

The village of Skeyhard consists of thirteen houses, containing eighty-one inhabitants, ranged along the side of a hill in groups of two and three; all, except one, on the south side of the road. Hills slope on all sides but one, towards this village, the one exception (the eastern) being shut in by trees.

On the 10th November a boy named Foley was attacked by diarrhea in Cork, where he had been working. He returned home to No. 6, Brick Yard, rapidly fell into collapse, and continued in the algide stage of cholera for some days, after which reaction set in, followed by fever and severe uremic head symptoms. This boy continued in extreme danger for two or three weeks, but ultimately recovered.

On the 12th a child was attacked in No. 2 Brick Yard; but the symptoms yielded rapidly; not so, however, in the next case, a girl residing in No. 1, Skeyhard, who was said to have visited Foley; she had the disease most severely, but recovered.

From this point cholera spread down the Skeyhard Hill, passing over five houses on the hill side, and attacking six out of the seven at its lower end. It is needless to enter further into the course of the epidemic, as the figures on the accompanying plates supply all particulars.

Part of Blackrock-road with Cat-lane and Pump-lane, all situated within an area of about quarter of a mile, the infected houses being from two to five minutes' walk of each other—many other houses intervening.

Numbered from west to east, "R," recovered; "XX," died; "X," died of consecutive fever.

1	2	3	4	5	6	7
Sulphur burned, Dec. 12th, XX.	Oct. 23rd, R.	Sulphur burned, Oct. 23rd, XX.	Sulphur burned after a day or so, Oct. 29th, R; Nov. 3rd, XX; Nov. 13th, R.	Dec. 15th, R.	Oct. 25th, R.	Nov. 29th, X.

Cork end of Ballinlough road, about two miles from infected (east) part of Blackrock road. H sent to hospital:—

November 12th, H	} Sulphur burned.
November 13th, R	

Skeyhard, numbered from west to east, 13 houses. Population, 18. Sulphur burned in all the houses.

1	2	3	4	5	6	7	8	9	10	11	12	13
Nov. 16th, R.	0	0	0	0	0	Nov. 24th, XX; Nov. 28th, R; Dec. 8th, R.	Nov. 27th, XX; Nov. 27th, XX.	Nov. 29th, R.	Nov. 26th, XX; Nov. 29th, O. R.		Nov. 30th, R; Nov. 30th, R; Dec. 3rd, X.	Nov. 30th, XX; Dec. 1st, R; Dec. 4th, X; Dec. 5th, R.

Brick Yard, numbered from west to east, 11 houses—9 inhabited. Population, 59. Sulphur burned in all.

1	2	3	4	5	6	7	8	9	10	11
Nov. 29th, X.	Nov. 12th, R.	Dec. 18th, R; Dec. 18th, XX; Dec. 27th, R.	Empty	Empty	Nov. 10th, R.	0	Dec. 8th, XX.	0	0	Dec. 2nd, R; Dec. 27th, R.

Here we have a history of thirty-six cases of true Asiatic cholera occurring in twenty-one houses, in eighteen of which sulphur was burned in order to set free sulphurous acid as a prophylactic and a therapeutic; of course the quantity used at a time was small, just sufficient to create a perceptible odour and slightly irritate the mucous membranes of persons approaching the spot, where the little blue flame was kept constantly burning, by sprinkling a few grains of sulphur from time to time on a pan of live coals

The poison of cholera was highly concentrated in Skeyhard and the Brick Yard, as evidenced by the rapidity with which case followed case, and the fact that in three houses more than one person was struck down simultaneously. On the Blackrock and Ballinlough roads the cases were more scattered, and occurred at much longer intervals, so that we may presume that although there were eight different foci of infection there was less danger of reproduction. In the one house where three cases occurred, a large heap of manure close to the back door, in a confined yard, explained the localization of a more concentrated poison. Sulphur was not burnt until the death of the second case in this house, when it was used as a disinfectant, but failed to prevent a third case, fifteen days after the first; although it may have modified the effect of the poison, as the last case contrasted most favourably with the two previous ones in the mildness of its symptoms and the rapidity of its recovery. Although sulphur was burnt from the first in the house on Ballinlough road, a second case occurred on the following day, having probably had the poison in her system before the prophylactic had been used; this case too was a modified one, the symptoms presenting a marked contrast to the severity of the first.

In the six other houses on these roads there was no recurrence of the disease; but as sulphur was burned in three and not used in the others, we can draw no conclusion from their escape.

Viewing the villages of Skeyhard and the Brick Yard together, we find that thirteen houses were attacked, in seven of which there was no recurrence after the first case or simultaneous cases. Of the remaining six there was recurrence—on the second day in one, on the third day in two, on the fourth day in one, the ninth day in one, and on the twenty-fifth day in one. A third case occurred on the fourth day in one, and on the twelfth day in one. A fourth case on the fifth day in one, and a fifth case on the sixth day in one; but of these ten recurrent cases *not one died of the primary disease, and only two of consecutive fever*. One of these latter had been a very mild case, and her death was as much due to the debility of old age and several nights of nurse-tending, as to the disease. She was a very old woman who had come from Cork to nurse her grandchildren.

The low rate of mortality among the recurrent cases cannot have been due to any special treatment, as all were treated on the same principles; nor to a diminishing intensity of the type of the disease, as most of them occurred at the very height of the epidemic, and within a few days of the first case in the respective houses. We may therefore fairly attribute it, in some measure at least, to the known effect of sulphurous acid in preventing the process of zymosis. Further, when we consider how many escaped attack altogether in these over-crowded houses, although exposed night and day to the influence of a most concentrated poison, we cannot help crediting our anti-catalytic, as having been the probable means of saving many lives, and therefore think the experiment worth repeating on a large scale.

Sulphur was also used as a disinfectant in the houses of all who died, a considerable quantity being burned, enough to penetrate every crevice and corner, and to destroy any life subjected to its influence. The Inspector of Nuisances, Mr. Carr, carried out this plan most efficiently, stating that experience led him to consider it one of the most powerful disinfectants at his command.

Almost all these cases, treated in their own homes, without removal from the infected locality, were in other respects also, attended under peculiarly unfavourable circumstances, being, for the most part, poor and ill-nourished, with only such appliances as the hand of the charitable could afford them, and, in some instances, too ignorant to remember my directions, or carry out fully my plan of treatment.

Fourteen deaths occurred out of thirty-six cases treated, a proportionate mortality much below average, and attributable, I believe, in some measure, to the therapeutic effect of the sulphurous acid.

I have seen benefit arise in very bad cases from a little excess in

the use of this agent, enough to cause slight coughing and sneezing, and in no instance, even when accidentally set free in too large quantity, have I seen it do harm.

We cannot pass over the evidence in favour of contagion afforded by the introduction of cholera into the Brick Yard, and from it to Skeyhard, by Foley, who was in the first stage of the disease when he returned from Cork. There are too many similar instances on record now, to admit of doubt regarding the portability of cholera; and yet this disease stands in marked contrast to small-pox, typhus, and other contagious diseases, in its communicability to the immediate attendants upon the sick.

When cholera first appeared in Cork, Professor O'Connor published a most useful letter in the daily papers, drawing attention to the almost complete immunity from cholera enjoyed by the hospital physicians, and others whose duties brought them into close contact with cases of the disease, and contrasting this with the terrible mortality among the same classes during epidemics of typhus.

This letter served its purpose, as it allayed panic. But if it be sought to establish, upon premises of this kind, the non-communicability of cholera, in the face of such evidence to the contrary as that contained in the paper read before the Cork Medical Society by Dr. Hardie, we consider such conclusion overdrawn.

The type of cholera observed during this epidemic was most severe, those attacked having been, in most instances, struck down without preliminary diarrhea.

The most formidable cases were those which early became cold and pulseless, with insatiable thirst for cold water, extreme restlessness, slight vomiting, loss of voice, and little or no diarrhea.

Thirst preceded all other bad symptoms in many cases, and its intensity was not always in a ratio with the amount of evacuation from the blood, seeming to be caused, in some instances at least, by irritation of the gastric mucous membrane, expressed by that internal sense of burning so often complained of. Cramps of the voluntary muscles were quite exceptional, and were absent in many cases where the venous condition of the blood was unmistakable.

The colour of the surface was generally quite livid, with an almost black conjunctiva, but a deadly, earthy pallor was more observable in the countenances of some few: secretion of all kinds was in abeyance, except when a cold dampness overspread the skin; the eyes were deeply sunk in the orbits of all; pulmonary oppression was a constant symptom.

Some of the cases which had been utterly pulseless, fell into a quiet sleep, and gradually recovered. One boy, who seemed actually in articulo mortis, rallied after I had, at the request of the inspector, signed a blank form for certificate of his death, in order to procure him a coffin without delay; and astonished me by recovering completely.

Two cases which had been quite pulseless many hours, had a return of pulse at the wrist, and an increase of temperature shortly before death. In some few instances I noticed that absence of pulse was intermittent.

I witnessed the onset of the disease in one instance while visiting a patient in secondary fever. A woman brought a child into the house in her arms, apparently quite well. It suddenly became very pale, and vomited three lumbrici, and a large quantity of serous fluid; from that moment it was cold and pulseless as a corpse, till about two hours before death (which took place in fourteen or fifteen hours), when the temperature rose and the pulse returned.

A large proportion of the deaths from cholera occurred within twenty-four hours of the first symptom. In the vast majority of cases vomiting was most distressing; but diarrhea was almost as exceptional as cramps.

Reaction generally occurred very gradually, and in some instances ran on into fever of a typhoid character, with a red, dry, shining tongue; others presented more the symptoms of typhus, with red, ferretty eye, and sleeplessness. Two cases were marked by all the formidable symptoms of uremic poisoning, and were treated principally with infusion of digitalis; one of them died, although the secretion of urine had been re-established some days; the other recovered after a protracted illness.

It is needless to enter into details of the symptoms which presented themselves in these cases. So much has been written on cholera, and so generally well observed have been its remarkable phenomena, that although varieties have been noticed in the characteristics of different epidemics, every one is able to recognize the disease, and agree regarding its symptomatology.

Very opposite views, however, are held as to the cause of those symptoms and the general pathology of the disease. These conflicting views embarrass the practitioner at the bedside, and cannot fail to render the practice of any thoughtful man uncertain, unless he is a partisan, a routinist, or has struck out a path for himself from the writings of others, or his own experience of the disease.

The controversy on both sides has been carried on with great ability, and it is impossible not to recognize grand truths, derived from close observation at the bed-side, in the writings of each party ; while there seem to be some things which each has regarded from his own special point of view, and which possibly admit of explanations by more impartial observers, so as to answer objections urged against certain points in both theories.

A cursory view of an ordinary case of cholera would lead us to attribute collapse to a draining away of the fluids of the system, and consequent stagnation of the great functions of life ; but extraordinary cases are on record where collapse has existed without any, or with little drain from the blood, either passed from the stomach or intestines, or retained within the abdomen.

Besides such cases, every observer must have seen instances which afford convincing proof that the intensity of collapse is not always in proportion to amount of evacuation, while all have seen collapse pass away gradually before evacuation has ceased to be profuse. Collapse cannot, therefore, be considered entirely an effect of evacuation, and yet it is certain that profuse evacuation, when present, must produce more or less inspissation of the blood, and that the latter condition, both mechanically and vitally, retards capillary circulation, arrests secretion, and otherwise takes a prominent place as a cause of the symptoms on which collapse depends.

Dr. G. Johnson's view of cholera is quite opposed to this, as he attributes all the symptoms of collapse to spasm of the small arteries of the lungs, and consequent arrest of circulation, calorification, aëration, and secretion. These views are reasoned out with such ability and knowledge of the disease, that, were it not for the assumption that the spasm is caused by direct irritation of the minute blood-vessels of the lungs by the cholera poison circulating in the blood, they would be well nigh conclusive ; but experience and experiment alike oppose a theory which denies that cholera may be prevented in the diarrhea stage by means which arrest the discharge, and retain a poison, assumed to be so directly irritant, locked up in the blood.

But if we throw overboard this assumption as to the cause of spasm, and find some other explanation of it, all Dr. Johnson's valuable reasoning as to the cause of collapse through imperfect oxidation, &c., &c., takes its place in our study of this condition.

If the poison of cholera, as of other zymotic diseases, is a ferment which reproduces itself upon some material existing in the blood, it would seem to differ in its *modus operandi* from such poisons as

vaccine or variolous virus, which reproduce themselves upon a normal constituent of the blood, as the pabulum necessary to the catalytic action of cholera poison seems to be an abnormal product of imperfect nutrition, existing ready formed in the bodies of the poor, the ill-nourished, the anemic, and the asthenic.

In all countries, cholera is found to be a disease of those who consume bad food and bad water, or who are much fatigued, or exposed, or panic-stricken.

In India, where the population is divided into castes, it has been observed "that the Brahmin and Banian merchants suffered less than the Ryot, or farmer, while the poor outcast Pariah suffered most of all." "The European suffers less than the Mahomedan, and the Mahomedan, who is better fed and clothed, less than the Hindoo, except during their rigid fasts, when the Mahomedans suffer in a much larger ratio." (Aitken.)

These facts are borne out by the epidemic, of which I have just given an account, as it is remarkable that of twenty-two occupied houses in Skeyhard and the Brick Yard, only nine escaped a visitation of cholera, and that of these latter the inhabitants of at least seven were better off than ordinary, having land, horses, and cars, or some other means of living on better food than their neighbours.^a

All those who had cholera were the very poor labouring class generally with large families, depending on the day's work of one individual, at a season of the year when employment was precarious. The houses of the small farmers and car-drivers are on the roadside, like the others, and were surrounded on both sides with infected houses, yet in no single instance did they suffer, affording evidence that a diet, even a little above that of the labourer, is not without its effect upon nutrition, and through it upon predisposition to cholera.

This would point to an efficient system of out-door relief as the most certain, as well as the most humane prophylactic for the poor, when cholera is at their very door.

In London, during the epidemic of 1854, Dr. Snow and Mr. Simon brought forward evidence, that among persons residing in the same locality, and under similar conditions in all respects, except water supply, the mortality was three and a-half times greater among those supplied with the impure water of the Southwark and Vauxhall

^a It is only right to mention that two of the families attacked on the *Blackrock-road* were better off than their neighbours. Both cases, however, seemed directly due to contagion, and in one also to a most foul manure-heap close to the back door.

Company than among those who drank water from the Lambeth Company (*Reynolds' System of Medicine*); and in the late epidemic, it was found that while the deaths in London per 10,000, at the north side of the Thames, were under four; at the south side under seven; and at the west side under eight; all these being supplied with tolerably wholesome water; the deaths were over seventy per 10,000 at the east side, where one covered and two open reservoirs existed "in dangerous proximity" to the Lea, at a point where that tidal river is full of foul sewage.^a

This is only what we should expect, when we remember how largely water is made use of in nutrition, forming as it does from "700 to 790 parts in 1000 of blood."—(Kirkes.)

Increased waste of body, caused by cold, fatigue, anxiety, grief, or alarm, by increasing the retrograde metamorphosis of tissue and otherwise influencing nutrition, act as predisponents of cholera. "Troops on march invariably suffered more than troops in quarters." "Dr. Lorimer's reports show that men were more frequently attacked on long than on short marches."—(Aitken.) In No. lxxvi. of *British and Foreign Med.-Chir. Review* we find the history of an epidemic, where, "as long as the officers remained in their well-wooded compounds and comfortable bungalows, they escaped entirely, but three days after going into camp in October, five officers were attacked and four died. Many similar instances might be brought forward, from histories of cholera epidemics, while the effect of panic as a predisponent is so generally admitted that it is unnecessary to cite examples.

But one remarkable instance of the combined effect of cold, anxiety, and alarm, which came under my own notice, is worth recording.

A poor woman, who was in an oyster-boat when it capsized, narrowly escaped drowning by getting on a mud-bank in the middle of the river *on a dark night*, where she remained up to her arm-pits in water till she was rescued. She was half dead with cold and terror when brought ashore, but recovered gradually, and seemed almost out of danger, when, on the third day, she began to vomit, and fell into collapse of cholera. Her case was a most severe one; but she struggled through the primary disease, only to die of consecutive fever ten days after.

^a Calculated from figures supplied by a Review in Dublin Med. Press, Vol. ii., No. 51, from the Registrar-General's return.

No other case occurred in the crowded lane where this poor woman resided ; but cholera was prevailing at the time about two miles off, and had been a few hundred yards from her house some weeks before. But to return. So generally observed have been the relation between cholera and the various circumstances which increase waste of nervous and muscular tissue, or deprive the system of the power of assimilating, or the means of acquiring healthy nutriment, that although these causes, together or separately, are unequal to causing an attack of cholera, they cannot be overlooked as causes of the disease, or items in the study of its pathology. They form the pabulum on which the poison of cholera reproduces itself in the system, and although we cannot, perhaps, go so far as to say that the condition of body thus induced is essential to an attack, there is much to favour such an hypothesis.

Now, if we assume that the poison of cholera is a ferment, and reproduces itself upon a pabulum thus formed in the bodies of those whose vigour is, from any cause, below par, there are further circumstances in the known character of the disease and mode of attack which would lead us to think it not improbable that the poison may be received into the system, and pass out again without giving rise to any apparent symptoms, unless an irritant is applied to the gastro-enteric mucous membrane.

Why should a dose of salts run a man into collapse when cholera is epidemic, or “the smallest dose of tartar emetic produce excessive vomiting and purging, algide phenomena, and failing of the pulse,”^a *the stools containing matter which, after undergoing putrefaction, can cause cholera in others*, unless some preceding change of a specific kind had been effected in the blood. If the dose of salts and tartar emetic are to be recognized as necessary causes of the symptoms in any given case, it follows that the prior change in the blood, attributable to the presence of a cholera epidemic, may have remained in the system and passed out of it again, at furthest on the cessation of the epidemic, without exciting an attack of the disease, if the dose had not been taken.

A third cause must then be recognized, as at least sometimes necessary to the accession of cholera symptoms, in the shape of some gastro-intestinal irritant.

Further, it would seem that the disease may be set going, prior to what the ancients would call “full concoction of the virus,” by this

^a Twining, Broussais, and Tighe, quoted by Cockle.

third cause, as the reproduced poison which exists in the blood when cast off with the serum of that fluid as alvine or gastric evacuations, is so far imperfect that it requires further development during decomposition of the discharges to render it capable of communicating the disease to others.

When we look at the symptoms and morbid pathology of cholera, and study the able treatises of authors of large experience and research, it would seem that conflicting opinions can only be reconciled by putting together some of the views of the writers on both sides, and assuming that the blood-poison produces a highly polarized condition of the ganglionic nervous centres, easily excited by the reflex action of some gastro-intestinal irritant into producing spasm of the muscular walls of the pulmonary and systemic minute arteries, imprisoning the blood within the veins, which are seen, on *post-mortem* examination, to be filled or distended with black blood, when, to use the words of Bell,^a "the blood over-distends the cava and oppresses the heart, being still poured inwards from the extremities, to which their well-valved veins permit no regurgitation, it is necessarily driven back from the gorged vessels upon all the internal venous branches unprovided with valves. The renal veins are distended, and the returning current of blood from the kidney stopped; consequently, a first effect or symptom of such congestion is the cessation of the secretion of urine. . . . In like manner, the hepatic circulation is oppressed, impeding the secretion of bile. These two constitute the second class of mechanical effects or symptoms. At the same time another effect is produced by the same cause; the portal circulation, at first impeded by meeting the reflux from the vena cava, is presently reversed, and the blood is thrust back into the mesenteric veins till it distends their extreme ramifications on the mucous membrane, where it finds a species of vent, for from this surface the repellant force squeezes out the fluid portion of the blood into the bowels."

We may also go with Dr. Johnson so far as that one cause of the blackness of the blood in collapse, and of arrested secretion and diminished temperature, is the want of due oxygenation; for in the bloodless condition of the lungs, and the comparative stasis of the oxygen carriers (red corpuscles) we find enough to bear out these doctrines.

We can believe that although evacuation is a relief to the

^a Braithwaite's Retrospect, Vol. xvii., p. 109.

engorged venous system, preventing that almost sudden death which occurs in cases unattended with vomiting or purging, yet that, as the relief is afforded at the expense of the vital fluid itself, which is said to be reduced sometimes to 6 or 9 oz.,^a the patient often sinks from the effort of nature for his relief, as one sometimes sees a patient die from the effects of pulmonary hemorrhage consequent upon obstructive disease of the heart, when nature kills in her attempt to relieve.

By thus studying collapse as a compound condition, the result of these causes, we can explain the two facts which principally stand opposed to the old theory of collapse, and to the hypothesis of blood-poison, as it admits the possibility of collapse passing away, while discharges still continue and the blood is still inspissated; while, on the other hand, it explains how cholera can be arrested in the diarrhea stage by means which soothe gastro-intestinal irritation, and allay spasm, although the poison is thereby retained in the system.

We have taken up for cholera a position which we believe might be borne out by entering further into details of the symptoms and *post-mortem* appearances; but when such essays and reviews as those of Parkes, Johnson, M'Pherson, Bell, Cockle, Chapman, Braithwaite, and one of the learned physicians of our Cork Fever Hospital, Dr. Beamish, can be consulted, it would seem a work of supererogation to do more than refer to them;^b and therefore we will conclude this imperfect sketch of cholera with a brief allusion to the treatment which was found beneficial in this epidemic.

Finding that an excessive thirst for cold water was an early symptom, and believing it due to gastric irritation as well as excessive drain of fluid from the blood, it was given in small quantities, as cold as possible, whenever called for. Although often vomited again and again, it was always found to do good; and its use was persevered in even after reaction had set in and consecutive fever been established.

If deprived of all except one means of treating cholera, and given a selection, we should prefer cold or iced water to any other. It is nature's cure; the only one on which the patient turns his lustre eye with a momentary glance of greedy pleasure. If retained

^a Dieffenbach, Magendie, Michael Levy, Thologen, quoted by Cockle.

^b We have only mentioned a few of the many authors whose works may be consulted with advantage. The modern literature of the subject is large; and we have had neither the opportunity nor the time to do more than glance at a portion of it.

even for a few moments in the stomach, it relieves the burning irritation, and directly and indirectly soothes the over-action of the ganglionic centres. If absorbed by the veins of the stomach, it liquifies the blood, and prevents that exosmotic shrinking and destruction of the corpuscles, and that hopeless disintegration of the blood which destroy life sometimes within a few hours after the commencement of reaction,^a and in its minor degree causes that consecutive fever which is sometimes as fatal as cholera itself.

It introduces oxygen where that element is so much required, and it tends to restore secretion after the spasm has passed away. Turpentine fomentations and sinapisms to the epigastrium, hot bottles, blankets, friction with or without soothing or stimulating liniments, and other means of relieving irritation and spasm, and preventing the rapid abstraction of caloric, have a beneficial influence on the symptoms, and economize the failing vigour of the body.

Complete and absolute rest in the horizontal position must be enjoined, with a diet of milk and soda-water, and sometimes a little brandy.

In the early stage of cholera a good large dose of laudanum and chlorodyne (thirty to sixty drops of the one, with from twenty to thirty of the other) is most useful. If vomited, as it is sure to be if the stomach is full of serous fluid, a second similar dose should be immediately given, and is generally retained. It may be necessary, during the course of a protracted case, to repeat these medicines; but we have found five to ten drops of camphorated chloroform every half hour or hour the only medicine suitable to the stage of collapse.

As a general rule secondary fever may be allowed to run its course, except where there are head symptoms, which we have treated by blisters to the scalp, and digitalis with an occasional dose of hyd. cum. cretâ. Mustard fomentations to the loins and feet have been found useful; but, like other diseases, cholera and secondary fever must be treated on general principles, applied according to the symptoms observed in each individual case; and few diseases require closer watching, and the exercise of a more carefully discriminating judgment, in regulating diet, and anticipating local complications. Many cases baffle the most skilled and careful endeavours, but others, snatched from the very jaws of death, repay our anxious solicitude.

^a Witness the return of the pulse a few hours before death, noted by Chapman and others.

ART. V.—*On Chloroform and its Medical Uses.* By CHARLES KIDD, M.D.; Member Royal College of Surgeons, England; Associate Member Surgical Society of Ireland, &c., &c.; London.

“Durch deine That und dein Kunstwerk
Mach’ es Wenigen recht; Vielen gefallen ist schlimm.”

SCHILLER.

AMONGST the latest applications of the principle of anesthesia under chloroform in medical practice, a few still remain and seem worthy of note in what may be styled the purely medical as distinct from the surgical uses of that agent. It might be desirable to see also what has been the amount of immunity from danger, if any, possessed by what are called “mixed vapours,” ether, ether spray, &c., now generally supposed in some degree to supersede chloroform. It is very curious to observe still what a large amount of want of knowledge exists both in the profession and out of it, as to the real amount of safety that attends this agent, the real value of anesthetics in Midwifery, general practice, the safety of balloon inhalers, &c.

From various interviews with the late lamented Mr. Toynbee, I could perceive that in the treatment of sundry forms of deafness these associated especially with *tinnitus aurium*, he believed the inhalation of chloroform, probably by relaxing the Eustachian tube, favoured the cure. We might term this one of the medical, as contra-distinguished from the operative or surgical uses of chloroform. In one case of a lady, where I was induced to try chloroform at his suggestion, no little improvement was observable in the deafness; but the lady had heard such exaggerated reports of the danger of chloroform, she could not be induced to continue its use.

A very noteworthy case of decided hydrophobia has been published in detail this year, which occurred in Northamptonshire. The spasms of the throat, on attempting to swallow water or other fluids, were almost at once relieved by inhalation of chloroform. The patient’s life was ultimately saved by the anesthetic. The suggestions which this case, and very many others of bad tetanus (so allied to hydrophobia) offer, are scarcely regarded at their full value in our lighter medical literature. Almost no case of tetanus, like almost no case of ovariectomy, ought now to be lost. Such is the triumph of a few years since a time we easily remember (at least in

London) when nearly all the cases of both were deemed hopeless, almost as much so as hydrophobia.

We have lived, perhaps, too long in a popular dread of chloroform. This need not be so. Novel writers and journalists have terrified the public ; and even in the Crimean war an official order was issued that it should not be used on account of the danger and trouble of sending complex inhalers and "mixtures." This is mentioned to explain why chloroform has been not more extensively tried in diseases like hydrophobia. Chloroform even is of infinite value in permitting the wound of the bite being cauterized, but it too often happens the dread of chloroform is as great as that of the bite itself. Another new application of chloroform, that scarcely deserves the name of surgical operation, proves very serviceable in hospitals. It must have come under the notice of visitors to these institutions how often and painfully the compression method in curing aneurism fails from the simple want of power of the patient to bear the pain of the clamp (too often a tourniquet) over the artery leading to the disease ; with a continuous and steady experience now of something very like fifteen years observing this mode of treatment (especially in London hospitals), I cannot help believing it has very often, or almost uniformly, failed, on account chiefly and curiously of this intolerance of pressure or pain, the knife, too often as a very *pis aller*, had recourse to, when the patient was erysipelatous, or irritable and feverish, the quiet rules or *petits soins* of Bellingham or Tufnell set aside (never learnt, in fact, by house surgeon or dresser, to whose hands half the treatment was confided) ; the chief surgeon "comet-like, with his tail of pupils," as poor Dr. Addison used to say, sweeping by every second day, casting a doubtful glance at this "clumsy, tedious Dublin plan," and all too easily acquiescing in the request of the patient to have it laid aside. We mention this merely that it may be useful in any further or final examination of the "Dublin method," the plan, as Syme says, of those who "aspire to mediocrity" in surgery.

It is now proposed to apply the weight or clamp to the femoral in the thigh, to wit, for popliteal aneurism, the pain and erythema prevented by placing the patient well under chloroform. The plan has proved very successful in some cases ; nay, the wise and good old Hunterian operation of ligature haply seems likely to be at some epoch superseded by this bloodless method ; or peradventure by slipping an acupuncture needle behind the artery. Age or

fashion thus succeeds age in surgery. "*Ætas succedit ætati, nihil enim semper floret,*" as Cicero says. A witty friend, condoling humorously a little while ago, indeed, with our first operating surgeon, who doubted this Dublin plan, and the cure of cancer by injection, said there would shortly be no cancers to be extirpated, or arteries tied for aneurism ; so the great operative surgeons would grow jealous of anesthetics.

There are various other hints for the pure physician as regards chloroform and pain, and a few as to medical cases even where it is not wise, as far as I am of opinion, to recommend operation for the sake of the operation being without pain. I have known cases of what proved to be ordinary dropsy (ascites) in a rather marked form, operated on in the earlier age of ovariectomy diagnosis, by mistake, abdomen opened, followed by a terrific gush of serum ; the wound, of course, closed up again at once ; but this has cured the dropsy permanently, the woman recovering without a bad symptom, and remaining remarkably well—quite a new person, in fact, years after. This unlooked for mode of treating ascites is not one that physicians will adopt ; yet the cases are highly suggestive as to the curious tolerance of the peritoneum of being wounded, especially if the system be well under chloroform at the time, all foreign bodies, sponges, ligatures, &c., avoided.

We have, in so many words, a system of retributive balance of cases, if one had only time to look out for them, chiefly the consequence of chloroform administration, bad strangulated hernia, bad aneurisms (that in former days led also irresistibly to the knife) ; complex old dislocations that required ropes and pulleys ; bad tetanus, the despair of the practitioner, and many similar affections, all yielding now to milder methods and a steady administration of chloroform, or hypodermic injection of morphia, as first tried by Rhynd, also of Dublin, and adopted by Wood. But on the other hand the simplicity and unexpected perfection of this painless process has, perhaps, led to hazardous enterprises of chloroform, in ascites, delirium tremens, extirpation of spleen, unwise cancer-cutting, ligature of aorta ; for I have seen all these under chloroform.

Three cases of what might well be deemed perilous medical cases, have been under notice during the past year in England, namely, extirpation of the spleen for what proved incurable disease, the cases all fatal. It is not often that one has an opportunity of seeing such devastation by disease. One of the patients bore the chloroform wonderfully well ; one of the cases is given in *Guy's Reports* by

my sedulous and able friend, Bryant; the second is mentioned by Wells; the third was very similar to the two others. As medical cases they have a very direct bearing on the medical uses of chloroform. I fear they are instances of *nimia diligentia*, where patients wish for, or submit to almost any operation, as they know they may have chloroform, but where it is scarcely judicious for the physician to encourage such wishes; yet what can be done if there be dropsy and the patient wishes the spleen extirpated?

I have seen a little of what may be termed heroic surgery in London and Paris, but all put together has not produced the same sense of terror of a patient dying, as the unavoidable result of extirpated spleen. As reporter or writer of "Mirror" for *The Lancet* and other medical archives, I have watched or noted largely over a hundred ovariectomies—I have seen a ligature placed on the common aorta, the patient living forty-eight hours—one has seen both thighs removed, and the patient to recover—œsophagotomy, with a dentist's gold plate, found sticking—Cesarean sections—hernias, &c., by the dozen: in all these the benefit of chloroform is beyond estimate to the sufferer; but, like the cure of ascites by opening the abdomen, we can scarcely recommend extirpation of the spleen for leukemia. It is, perhaps, an unsteady kind of sequence to adduce, that because the function of the spleen is not indispensable to life (like that of the lungs, or pancreas, or kidneys), that therefore it may be extirpated without danger or accident to life. Such a patient will take chloroform admirably; but the surgeon will do well to be prepared for adhesions of the spleen, and injury of the large vein attached to this viscus; nay, the chloroform seemed to me almost to keep the patient alive, *malgré* the knife.

Amongst many questions for the physician such as these, and the undoubted importance of chloroform in whooping cough, gall stones, asthma, infantile and adult convulsions, a doubt is sometimes expressed as to chloroform in paralytic cases for surgical operation; but there is not any circumstance to contra-indicate its administration under such conditions, or even in decided brain disease or mania. Chloroform has been followed by only the ordinary or usual anesthesia, where exhibited in cases of marked paralysis (the remains of a previous attack of apoplexy leaving a clot in the brain); and it is very often given in lunatic cases without danger.

It may be useful to note, *en passant*, that there does not appear to careful observers any manifest superiority in what are termed "mixed vapours" over simple chloroform. Then as to local

refrigerents—in a case of Cesarean section, where the local application of ether was tried as an anesthetic, the wound failed to unite, the patient died with the wound unclosed; and I have heard of frequent instances of sloughing of such parts and necrosis of bone from excess of congelation by ether: in ovariectomy it has proved cruel and useless.

On the other hand there are obvious cases, such as of anthrax, for instance, or other diseases of the skin, as likewise instances of post partum hemorrhage in obstetric practice, where the ether spray has acted very well, as the most convenient form of topical cold or congelation, for arresting hemorrhage in the latter, or deadening the sensibility in the former class of patients. The local application of ice would act in a similar manner, but has fallen unwisely into disuse. The ether spray in ovariectomy cannot be advised by any one who knows that the only or chief pain (and it is sometimes very agonizing) is in tearing asunder the adhesions where it is impossible to apply the ether. In operations about the vagina and rectum also it always disappoints, too.

Various instances of death from “mixed vapours” have been published. Thus at a discussion of the Paris Surgical Society, M. Legoust recited the particulars of such a case at Lyons, and M. Giraldes one elsewhere—both ending fatally. Since then there have been others; and if I mistake not, the two most remarkable deaths in the past year, in America and England, were also from mixtures of ether and chloroform. Deaths from anesthetics are now not far short of three hundred cases, but it is no one’s interest to collect them; and when I proposed to do so for the committee in Berner’s-street, it was considered to be unnecessary.

As to the alleged importance of chloroform inhalation in pneumonia, as stated by Varrentrap, Helbing, and others, it may be reasonable (with our present knowledge of how that disease gets well of itself) to doubt many of the supposed cures. Not so, however, as to its very decided curative influence in asthma, whooping cough, laryngismus, hiccup, gall-stones, &c., as referred to previously. Chloroform, too, is invaluable in the severe cough of phthisis patients.

The effect of chloroform in lessening the severe spasms and pain in strychnine poisoning has proved as satisfactory and marked as its influence in tetanus and hydrophobia, gall-stones, or asthma. It is probable, too, that chloroform or ether (as hypodermic injection of similar agents has done) will prove of service in malarial fevers; especially ether, by its chemical action on the blood.

It may be objected that where a poison has entered the blood, as in hydrophobia or strychnine cases, the influence of chloroform locally to the nerves of the throat or larynx may not be effectual enough ; but here we will do well to place one fact of such a cure in contrast with any number of theories.

I believe the action of chloroform is not unlike that of a subtle agent of this kind which has entered the blood—anesthesia is not interrupted oxidation of tissues, as held by Sansom (for nitrous oxide produces anesthesia by excess of oxygen)—in all probability the phosphorized fat (protagon) of the blood corpuscles and nerve tissues is acted on by chloroform, as it is very markedly by carbonic oxide and ether. The action on the grey corpuscles of the brain ganglia (thalamus opticus corpora striata, &c.), whatever that be, is probably interrupted, and so is sensation.

A theory has been offered that chloroform acts as an anesthetic by action on the vaso-motor nerves, lessening the chemical oxidation in the brain. This is probably only a coincidence. Like my friend Lionel Beale, I cannot believe in these oxidation ideas of Bence Jones.

The physician is much interested in what is the exact mode of action of chloroform, when and how it is dangerous, &c., and yet we too often find the patient frightened, and likes not to use it. In America, Germany, and France, the experiments of the physico-chemical or oxidation school of Sansom and Harley are held to be nearly useless. Animals so asphyxiated are not at all under the same condition as patients in hospital. We do not smother the latter in closed vessels. Sabarth and Giraldes agree with me in adopting rather the idea of Brown-Séquard that it is rather by active reflex influence due to the sudden irritation of the branches of the par vagum in the lung that chloroform proves fatal, at least in the cases where the heart's action stops before the respiration. It is only in a certain *incomplete* stage of the anesthetic process, not where motive power is abolished : in other words, in trivial operations, mostly and before the patient is well "put under" the chloroform (not in ovariectomy or large amputations, or in deep anesthesia) that accidents have occurred. Almost like a nettle (unpopular as the idea may be) chloroform stings when lightly touched ! causing laryngeal spasm.

Sabarth gives thirty-six deaths from ether, and the highest American authorities have now decided it is quite as dangerous as chloroform. Mixed vapours and complex instruments for inhalation,

Giraldes says, are not only dangerous, but a "cause of danger" in themselves. In practice it is better to administer ether and chloroform separately rather than mixed. Alcohol, indeed, is wasted in such mixtures, as it has to be squeezed out of the sponge or inhaler. I always use a simple inhaler in form of cone.

Chloroform narcosis differs very widely from ordinary sleep. A cannon may be fired close to the ear, and it does not disturb the patient under chloroform ; but as Wordsworth says, and we all know:—

"From the anarchy of dreaming sleep,
With touch as gentle as the morning light,
We wake us daily to the power of sense,
And reason's steadfast rule."

It is a mistake in delirium tremens and medical cases to give chloroform, therefore, simply as a narcotic, especially in the delirium of typhus.

I very much doubt, in fact, the wisdom of classing chloroform, with the physico-chemical school, alongside common narcotics, like opium ; and if this idea of the action of such sleep or narcosis be true, that it arises from a specific influence on capillary vessels and vaso-motor nerves, then is belladonna the farthest removed from the medicines styled narcotics or sedatives. This vaso-motor action is probably a simple coincidence of no importance or moment. Sleep is not the same as chloroform anesthesia, as held by the chemical school ; an infant or a lunatic patient while asleep is sometimes placed under chloroform ; but he wakes out of sleep in the middle of the administration. In delirium tremens and delirium of fever chloroform has been tried, especially in the latter, to procure rest, but in both affections with equally dangerous consequences. Indeed, Corrigan has published two cases ; in one the death was instantaneous ; in the other in less than an hour, from unexpected collapse, sudden blueness of the lips, cold surface, &c. ; while in a third the patient scarcely recovered.

Chloroform has been exhibited in the late and previous epidemics of cholera:—Mixed with equal parts of oil, and rubbed externally, it gives much relief in the cramps of cholera, or rather the neuralgic pains so common in fingers and toes in cholera. Were not the "spasm" theory of cholera of Dr. George Johnson rather doubtful, we might suppose it acted in relieving such spasm also.

It is well to keep in mind that all our late accidents from anesthetics have been (as mixed vapours now are a sort of fashion)

from mixed vapours. Two accidents, one fatal, have come under notice recently, where Clover's apparatus has been the one in use, thus bearing out the view of Giraldes as to complex instruments. All the facts of hospital anesthetics, as well pointed out, too, by this able writer, Sabarth, and Lallemand, Perrin and Duroy, are opposed to the conclusions from experiments on animals of Harley; the deficient oxidation theory of Lister and Sansom, as well as the opinion of these writers, that the chief danger is from fatty heart and over-doses. Pure chloroform, in other words, is safer and safer every year, according as it is exhibited with attention, fearlessness, and delicacy. And, finally, follow must we the words of Schiller, observing the natural facts and avoiding popular errors—that ether spray answers in ovariectomy, or that “mixed vapours” and balloons are free from danger; better far to simplify anesthetics and administer ether and chloroform *separately*. The latest researches in France corroborating this view, that the excitement or dangerous stage of the administration is essentially due to the action on the lungs and larynx, not to a poisonous deoxidation in the blood. Complex inhalers, *omne ignotum, &c.*, to prevent deep poisonous effects—rather showy and brilliant like operations on the spleen—experiments on animals of Harley—only like those of Orfila, indicating mischief from very simple medicine, but where he omitted to mention he had ligatured the œsophagus and its nerves! The “law of tolerance” in chloroform, too, is a curious but true thing, only observable in hospitals. This is my experience of watching some twenty thousand operations under chloroform. It is quite irreconcilable, however, with the caution of patent inhalers or “mixtures” to keep off cardiac syncope. It is still held by cautious, slow physicians in London, who patronize such things, that even in midwifery practice, as our grandmothers had fine children without chloroform, so ought all poor women gloomily in childbirth of the present, go through the most harassing or dangerous labour without this deoxidizing poison! The heart's action, it is curious (in opposition to all such views and vivisections), is less active only during the excitement stage, owing to the inhibitive function of the vagus. Depressing emotion, prolonged anxiety, at the idea of losing consciousness, doubt and fear as to the coming pain, idiosyncrasy, &c., aggravating this condition, all absent in midwifery cases, where cheerfulness and simplicity are studied, and the puzzle of inhaling machines removed. In all cases, indeed, where ruptured uterus is to be feared, chloroform proves a direct blessing and advantage to the

patient in childbirth. This is the experience of my excellent friend, Braxton Hicks, and many other obstetricians of the advanced school. Natural facts have still, however, to contend much against popular error or prejudice. *Opinionem enim commenta delet dies naturæ judicia confirmat*; but we have no fear for the result.

ART. VI.—*Observations tending to show the Identity of the Fungi of Favus and Tinea Circinata.* By JOHN M. PURSER, A.B., M.B., T.C.D.; Demonstrator of Anatomy in the Carmichael School of Medicine.

IN an interesting paper^a by Dr. M'Call Anderson, recently published, in which he attempts to prove the non-identity of the fungi which produce the diseases known as favus, tinea tonsurans, and pityriasis versicolor, the following statement occurs:—"Of the numerous instances on record of the transmission of favus and tinea tonsurans *from the lower animals* by contagion or inoculation, favus has always given rise to favus, and tinea tonsurans to tinea tonsurans" (p. 234). This conclusion is supported by several cases both from Dr. Anderson's own practice and from that of Bazin, Gerlach, Bärensprung and Köbner, and, so far as I know, at the time of the publication of the paper in question no instance of a contrary nature was extant. The following cases, therefore, in which favus appears to have produced tinea circinata (which Dr. Anderson and most other dermatologists believe to be identical, as far as the fungus is concerned, with tinea tonsurans and sycosis), both by accidental contagion and intentional inoculation, may be of some interest as bearing on the question, still unsettled, of the identity or non-identity of the fungi which occur in the different epiphytic diseases of man.

In October last I was called on to attend a family, four members, of which, all adult females, were suffering from ordinary tinea circinata. The spots affected the hands, arms, and shoulders; were of various sizes; presented a centre of sound skin and a spreading furfuraceous edge; itched a good deal; and, in short, presented a typical example of ordinary ringworm, so much so that, contrary to my usual custom, I neglected to make any microscopic examination of the epidermic scales. The disease was recent, and yielded readily

^a British and Foreign Medico-Chirurgical Review, July, 1866.

to treatment. A few weeks afterwards, when the spots were all well, or nearly so, on talking over the possible manner in which the disease might have been contracted, I was asked by one of the patients if it could have been taken from a cat, mentioning at the same time that one of her cats had had a spot on its paw, which she, thinking it was dirt of some kind sticking in the hairs, had tried to pick off, but found that her attempts made the paw bleed. Shortly after this she remarked spots of ringworm on her own hands. On inspecting the cat I found that it had on its left fore paw a small spot, from which the hairs were almost completely absent: this was covered by a raised crust of dry powdery consistence, and sulphur yellow colour, through which passed a few stunted hairs. There was no cupped appearance, but the naked-eye characters of the crust resembled much those of some varieties of favus. I learned further, that another cat living in the same house had had a similar patch on its nose, which was now well. I inquired as to the mice, but could get no reliable information. Microscopically, the crust from the cat's paw was seen to consist almost entirely of the spores and filaments of a fungus. The spores were large, many of them oval, and present in considerable quantity. The filaments were branched and abundant. These appearances were identical with those which I had seen in cases of undoubted favus; but mistrusting my own limited experience in a matter of such delicacy as the diagnosis of a fungus, I sent a portion of the crust to Dr. Tilbury Fox, whose opinion on such a subject no one will be inclined to question. He pronounced the fungus to be an admirable specimen of the *achorion schönleini*, the parasite of favus. In the meantime I had inoculated my own forearm with the fungus, by scraping off the superficial layer of epidermis, and laying on the denuded place some of the crust reduced to powder, and covering the whole with a piece of sticking plaster. The plaster was removed after a hundred and twenty hours, during the latter part of which time there was intense itching of the inoculated part. There then appeared a circular spot on the forearm, the shape and size of the plaster. The centre was covered by large, loose flakes of epidermis, separated probably in consequence of the retention of the perspiration. They adhered by only a few points to the subjacent parts, which consisted of skin, reddened and softened from absence of horny epidermis, but presenting no sign of eruption. Around this was a slightly raised and furfuraceous border, and outside this again a circle of inflamed skin covered with minute vesicles. After

exposure to the air for some hours, the central scales separated; the skin beneath assumed a more healthy colour and appearance, while the spot continued to spread centrifugally by the formation of successive crops of vesicles. These vesicles were extremely small, of subglobular shape, formed with great rapidity, and dried up quickly, leaving a furfuraceous crust. There was some difference of opinion among the physicians to whom I showed the spot as to what the disease should be called; but those who carefully observed the healthy centre and the spreading edge thought that it most resembled herpes circinatus, while all agreed that it had not the least resemblance to favus. Part of the crust was found by the microscope to consist chiefly of epidermic scales, mixed with which were a few pus or exudation corpuscles, a considerable quantity of the mycelium of a fungus, and a few spores. A specimen was sent to Dr. Tilbury Fox, who stated that the mycelium presented the characters of *trichophyton* rather than *achorion*; that it differed from the latter in being smaller, less freely branched, and containing fewer granules. The spores were small and round, none large or oval. He further says, "You clearly have a condition which presents, microscopically, the characters of *tinea circinata* (*herpes tonsurans*), but which may be only an early stage of favus; but this is exactly what, I argue, arises." Dr. Fox was also so kind as to show specimens of both fungi at the Pathological Society of London. After some days, as the spot continued to spread with unaltered characters, and as the itching had become so severe as seriously to interfere with my comfort, the crusts were removed. They were never renewed. The patch spread but little after that. It gradually died away with considerable desquamation, leaving a brown, discoloured spot, which persisted for several weeks. I had intended to attempt re-inoculation from my arm to a cat or rabbit, but was prevented at the time. Subsequently a second inoculation was made on another part of my forearm, which produced a diseased patch, presenting the same appearances, both to the naked eye and microscopically, as the former, but before I could continue the experiments, circumstances occurred which obliged me to relinquish the entire investigation.

It is unnecessary here to dwell on the mere fact of the transmission of disease from the brute to man, an event which is universally allowed at present to be not only possible but of frequent occurrence; but, as I have already stated, in all the hitherto recorded cases, favus has produced favus, and tinea

tonsurans *tinea tonsurans*, whereas here we have favus in the animal giving rise, by contagion, to *tinea tonsurans* in the human subject; and the fungus, which, when growing on the hairy skin of the cat, under what we may suppose favourable conditions, appeared as *achorion*, with large spores and well-developed mycelium, on being transplanted to the human skin, where the hair follicles were few, and moisture deficient, changing its form to that of *trichophyton*, which is considered by many to be only an imperfect development of *achorion*. A change of a somewhat similar kind, produced also by transplantation of the fungus from a hairy to an uncovered part, is mentioned by Dr. Fox;^a but in this instance both forms of disease occurred on the same patient, favus of the scalp giving rise to *tinea circinata* of the shoulders and neck.

It is not my intention to go over all the evidence which has been adduced by writers to show that the apparently different fungi met with on man are all varieties, or different stages of growth, of the same plant, the diversity in form being due to differences in the soil on and the conditions under which they grow. It is, indeed, difficult to understand the opposition which, in the face of such evidence, this view still receives, at a time when the limits of variation in form of animals and vegetables, produced by external circumstances, is acknowledged by naturalists to be so wide. When we consider the slight differences in conditions of growth, which, in experiments on the germination of fungi, have sufficed to produce very different forms, we should rather be surprised that the variations occurring in the transmission of parasitic fungi from one person to another are so rare. Thus we read^b that "Dutrochet took a solution of albumen, and examined it from time to time. At the expiration of a year nothing had occurred; he added some acid, and monilia was produced; conversely he added an alkali, and botrytis resulted. Thinking that the agency of the reagent might have had some special influence, instead of albumen he used fibrin, and, curiously enough, he obtained just the very opposite result. Fibrin and alkali grew monilia, and fibrin and acid botrytis." There is some reason to believe that if the history of the source of contagion in each case of parasitic skin disease could be made out, and if more care were given to the determination of the microscopic characters of the fungi, instances of variation in the latter would be found to be more frequent than is at present supposed.

^a Skin Diseases of Parasitic Origin, p. 126.

^b Fox, loc. cit., p. 100.

In conclusion I have to notice a paper,^a lately published by Dr. Salisbury, in which he describes a disease very common in cats, produced by the growth of a fungus, and very readily spreading by contagion to human beings, giving rise in them to a disease very like ordinary ringworm, but differing from the latter so much as to lead Dr. Salisbury to call it "a newly discovered disease," and to give it a new name, derived from its origin, *trichosis felinis*. It affects principally young cats, rarely spreading to their elders. The milk with which the paws and face of kittens are often smeared is believed to furnish a suitable soil for the germination of the fungus. Of human beings children are chiefly attacked. In them the disease spreads in isolated patches to all parts of the surface, often in a few days time. The patches are of various size, circular or oval in shape, slightly elevated above the surface, red and covered with scales and little elevations, marking the position of the hair follicles. The colour of the patches is deeper, and the irritation and itching more severe than in ordinary *trichosis*. The fungi also differ. "In ordinary ringworm (*trichosis furfuracea*) the fungoid cause exists mostly in the spore state. The plant does not advance beyond its cell condition. Its growth seems to be confined simply to cell-multiplication by pullulation. In this disease (*trichosis felinis*) the plant cells multiply by pullulation, and these advance to the filamentous stage of growth." From the drawings of the fungi which Dr. Salisbury gives, the spores are seen to be oval, containing one or two nuclei, provided with buds or off-sets, or occurring in chains. The mycelium is branched, jointed, with cellular interruptions, and contains no granules or spores. These characters are unaltered by the passage of the fungus from the cat to the child. In this respect the cases differ materially from those detailed in the present paper.

ART. VII.—*Cases in Private Practice of more than Ordinary Interest.* By JOHN FRANCIS M'VEAGH, M.D., L.K.Q.C.P.

As I believe it is incumbent upon every physician to bring before the notice of his profession any case that may prove instructive, or

^a A brief description of what appears to be two newly discovered skin diseases, one originating in the cat, the other in the dog. Both cryptogamic and contagious, and both capable of being transmitted from the animal to the human body. By J. H. Salisbury, &c.—*American Journal of the Medical Sciences*, April, 1867, p. 379.

possess any unusual amount of interest, I beg leave to present the following gleanings from notes of cases that have lately fallen under my notice, which many of my professional brethren have witnessed, and which I trust may not be altogether devoid of interest to my readers. The first two cases I believe are unparalleled in medical records, from their more than ordinary complications.

CASE I.—Alarming Cardiac Irritation occurring during Pregnancy—Induction of Premature Labour—Recovery.

I was sent for on the 30th July, 1866, to see a lady, residing in the immediate suburbs, who was, I heard, in a most dangerous state of prostration from some heart attack. It will be better, ere I state her appearance at my visit then, to digress a little, and give an outline of her previous history. She was always a delicate woman, nervous temperament, remarkably fair and interesting. Her father was dead, having succumbed to a hemiplegic attack; her mother living, but very delicate, and of a tuberculemic diathesis. She lost two aunts, by the mother's side, from phthisis, and last year a sister died of the same malady. She has several sisters living, all of whom show unmistakable foreshadowings of tuberculemia. She has been married about six years, and has had three children, two of whom are living and healthy; the third child died early last year from croup. In each of her confinements she has had most severe hemorrhage, but in the last labour, occurring at the full period, I never witnessed a more fearful case of flooding; so much so, that Dr. Denham, who saw the case with me, could not believe that she would rally from it. She always had an irritable heart, but no sign of structural lesion. She never had rheumatic fever or any renal disease. On the day of my visit, she was about entering on the eighth month of pregnancy. I found her propped up in her bed in a most fearful state of distress from orthopnea. The action of the heart was most excessive, one minute violent pulsations, then fluttering, then total cessation for a few seconds, with fainting fits, pulse countless, the rhythm of the heart so deranged as to render neither sound correctly audible; no cardiac dulness, slight fremitus, no appreciable pulmonary congestion, but loud bronchial râles audible with puerile respiration in both lungs, and cardiac impulse every place; bowels free, and kidneys acting freely; urine healthy and not albuminous; no œdema of feet; fetal movements normal; abdomen not much enlarged, even less than would be expected at

the eighth month; no sign of uterine action. There was no assignable cause for her attack, no excitement nor fright, or any mental anxiety, but the attack was rather sudden in its seizure, though she felt a good deal of palpitation for a few days previous to my seeing her. My plan of treatment was at once directed to allay, if possible, the excessive cardiac irritation, and support her strength, resolving for the present not to bring on her labour, both from dread of hemorrhage and her alarming weakness. I gave her large doses of hydrocyanic acid, applied sinapisms to the cardiac region and at the root of the lungs, lavements with assafetida, diffusible stimulants, champagne, ice, &c. In the evening she was a little easier, but could not lie down, so we had to make her as comfortable as we could in a semi-recumbent position for the night. On the following day the symptoms were about the same, only that she had to be placed in an erect position in an arm chair, being unable to bear her former position, for fear of being suffocated. I applied a large blister across the cardiac region, which, she said, on my evening visit, had relieved her a little. For the next three days she remained about the same, but could not get any sleep, and now severe diarrhea set in, which added much to her sufferings.

On the morning of the 4th August, œdema of the lower extremities was visible, and she became more restless, and the attacks of orthopnea more severe. I now had the valuable assistance of Sir Dominic Corrigan in consultation, and he took the greatest interest in the case. He thought with me that in part the cardiac symptoms were induced by her pregnancy; but he was afraid that there was also some pulmonary irritation, such, perhaps, as general softening of a mass of tubercles in both lungs. We debated about the propriety of bringing on her labour; but resolved to wait for some time longer. He ordered her, in addition to the remedial measures I was adopting, the compound spirit of horse radish in doses of a tea-spoonful frequently. During the next three days she was no better, but all the bad symptoms on the increase, œdema increasing rapidly, suppression of urine, excessive perspiration, alarming prostration.

On the morning of the 8th she was almost moribund, delirious all night, and every appearance of approaching dissolution, so much so that all her family took their farewell of her. At 11 a.m., Sir Dominic Corrigan saw her with me, and we also had the valuable assistance of Dr. Denham, and we agreed to give her the only chance of saving her life by inducing, if possible, premature labour. At 12 the membranes were ruptured, but only about a pint of liquor

amnii came away. Up to about 6 p.m., she had scarcely any relief, but soon after she complained of some uterine pain, and expressed as feeling a little relief from her heart. At about 8 p.m., the pains increased, and we were able to carry her from the chair, where she had been propped up for eight days previously, to her bed, where she lay in a semi-recumbent position. At 10 the pains had increased, and on examining, per vaginam, the os was beginning to dilate. After each pain she became excessively weak, so much so that I had to give her brandy as well as champagne freely. At 12 the os was more than one-half dilated, and there was slight hemorrhage. From this until 4 a.m., the labour steadily progressed, and at half-past four she was delivered of a living female child. There was a good deal of hemorrhage, and I thought my poor patient must sink; however, by keeping steady pressure on the uterus, inserting successive pieces of ice into the vagina, and pouring down champagne, she gradually rallied, and at 8 the cardiac irritation seemed much relieved.

During the 9th August, the œdema began to disappear; kidneys acting; fits of orthopnea less, and able to lie down better. Her mind more composed and rational now in every way, asking after her child, &c.

10th. Progressing favourably; all the cardiac symptoms improved. Her little baby died suddenly this morning in convulsions. For the next week matters went on comparatively well, only that she seemed so exhausted, despite all dietetic and remedial means adopted to support her strength; and now, to add to her danger, most fearful perspirations set in. I never witnessed anything to equal them, not even in the worst cases of articular rheumatism. Every half hour almost her night dress and sheets would be saturated with the exudation. I gave her opiates—quinine with citric acid, tepid sponging—but all to no avail, as nothing seemed to check the fearful discharge from the skin. It occurred to me now the wonderful effects I had so often witnessed of late in the benefit of oleaginous inunctions in the night sweats of hectic, so I resolved to adopt such with this patient, and directed the nurse to rub her, *a capite ad calcem*, with oil of sweet almonds three times a day. This acted with wonderful success, and the terrible drain was stopped almost by magic, and from this day she gradually progressed to convalescence.

During the long time I was attending her afterwards, I made several careful explorations of her chest, but could not satisfy myself as to the existence of any organic cardiac mischief. A slight murmur

was often audible towards the right clavicle, at other times it was absent; no appreciable dulness over the heart; valves healthy; the left ventricle may be slightly enlarged as evidenced by the violent impulse. No certain pulmonary mischief discernible; but respiratory sounds prolonged under right clavicle more than normal.

Remarks.—This case presents many points of interest to the physician. The very rare complication during pregnancy of such dangerous heart symptoms was one of unusual anxiety to treat. The danger the patient was in from these symptoms, and, on the other hand, the dread of fatal hemorrhage to which she was liable if we induced labour, were matters of grave importance to decide upon. If such a case was to occur again, I would not hesitate, but at once induce premature labour, as it was evident in this case to have been the salvation of our patient. The cardiac symptoms most likely were nearly all referable to reflex action, though they simulated in every way structural lesions of that organ. On the night of the 7th, whilst sitting beside the patient, which I did all through until morning, you would imagine that you had a case of endocarditis before you. The delirium, fainting fits, sense of impending dissolution, cold sweats, &c., all were depicted in this case. I may mention that this lady at the present time (July) is quite well; has gained flesh; no cough; sometimes feels a little palpitation, but is able to enjoy life, and attend to all her domestic duties.

CASE II.—Placenta-Previa—Induction of Premature Labour at Six Months—Choleraic Diarrhea—Croup—Death.

A lady residing in the north side of the city called on me in the middle of last September, complaining of excessive vomiting and nausea. She suspected she was pregnant about six weeks. I had attended her in her previous confinement only, which took place about eighteen months ago. She had two previous labours antecedent to her becoming my patient—one in England, the other here. The child born in England died there of croup. The other two children living, but prone to threatenings of croup. Her mother died of pulmonary disease. Her father living and healthy; married again, and has a large family by his second wife, all of whom were very liable to croup. The labour that I attended her in was an ordinary case of natural labour, and from

which she made an excellent recovery. Her child was a fine healthy girl, and she nursed her for ten months. She was always healthy, of a cheerful temperament, but was peculiarly nervous about croup. On the occasion of her visit to me I had no doubt but that the sickness and nausea she complained of were due to her being pregnant, and I gave her draughts of bismuth, with acid. hydrocyanic., and subsequently oxalate of cerium, which relieved her. The next time I saw her was at the end of October, and she was then suffering from a severe bronchitic attack, which, by treatment, was soon got under. I did not see her again until early in December, when she came into my study in a great fright, saying she had a sudden change on the day previous after a long walk. I ordered her to remain quiet at home, and to let me know if the discharge returned. On the following Sunday, being in her neighbourhood, I called to see her, but heard she was quite well, and at Church. In about ten days she again called upon me, and said she had another sudden discharge of blood, and felt very faint afterwards, and that she now felt the movements of the child. I sent her home, with injunctions to remain in her room for a few days, and put her upon acid. gallic., with acid. sulphuric. dilut. tincture cannabis indicæ, &c., and directed her to send for me the next time any attack of hemorrhage occurred. Shortly before Christmas she had a slight attack, for which I saw her, and on examining her per vaginam, as the os was slightly patulous, discovered the placenta presenting. The cervix was shortened, but it was still most difficult to reach the os internum. I again placed her on the gallic acid mixture, and enjoined strict quiet. During Christmas she was very well, so much so that on New Year's Day she entertained her family to dinner, but, from the exertion, on the following day she had a bad attack of hemorrhage. I saw her on the 2nd January, but the attack had passed away; she had no pain. Things went on pretty well until the 18th January, when I was sent for early that morning, as the membranes had ruptured spontaneously, and a very large quantity of liquor amnii had escaped. There was no hemorrhage, and on examination the placenta was still lying across the os internum; but on using the second finger I was enabled to reach some other presenting part, which I could not well decide upon. She remained free from hemorrhage until the 20th, when a very severe attack came on, but when I reached her house it had ceased. I was prepared to use the *tampon*, but as the discharge had ceased I waited, as I made

up my mind to bring on her labour. Dr. Denham saw her with me on the 21st, and he agreed with me that it would be a risk to delay the induction of premature labour any longer. I gave her two table-spoonfuls of a mixture containing 2 drachms of the liquor ergotæ to 3x of water, with some chloric ether, every two hours, commencing at 6 p.m. on the afternoon of the 21st, and soon after the second dose, at 8 p.m., labour pains set in. At 10 the os was nearly fully dilated, and a foot and the cord presented. At 11 the labour was over, and she was delivered of a living female child. The placenta followed instantly after the head was extracted. There was a good deal of hemorrhage, and my patient seemed much exhausted; but by applying restoratives and the usual means, she rallied, and when I left her at 4 a.m. on the following morning she was very well.

22nd.—On visiting her at 10 a.m. this day she was very excited, but the nurse informed me that some family matters had fretted her. Her pulse was quicker than normal, but all the uterine functions were going on favourably. For the next three days she seemed to progress pretty well—uterine symptoms normal—secretion of milk natural. However, there was great restlessness and tendency to insomnia. She complained also of being very weak, despite a most generous dietary which I gave her all through.

On the 26th she was very weak, and could not pass water, so that I had to use the catheter; and on the 27th she was attacked, without any cause, with most severe cholera, vomiting and purging, the latter resembling thin gruel. I put her upon sugar of lead and opium, turpentine fomentation, lavements of starch and quinine, and the most powerful stimulants, as she was very prostrate. Dr. Denham saw her with me this afternoon, and approved of the treatment.

28th.—Much better in every way; pulse improved; more cheerful; no vomiting; diarrhea ceased; uterine symptoms favourable.

29th.—Much better to-day in every way; able to pass water herself; pulse stronger; appetite good; countenance more healthy.

30th.—On visiting her this morning she complained of hoarseness, and said she must have caught cold. No cough, nor sore throat or dysphagia. I put a hot cataplasm of linseed meal across the throat, first having ordered the nurse to put a mustard plaster over the trachea. In the evening she was no better, and could

scarcely speak. No pain over the larynx or trachea; said she felt better than ever only for the hoarseness; had the acetum lytta painted over the trachea.

31st.—It was evident now that my poor patient was labouring under the very disease that she most dreaded, pure membranous croup, as the true type of the malady was fully apparent at my visit. The distress in breathing was now considerable, and she vomited up a large piece of the true croup membrane. Stridulous râle all over the trachea; no pulmonary complication; no diphtheric appearance; pharynx, uvula, palate, all healthy and natural colour. I put her on calomel and Dover's powder; hot fomentation across the trachea; inhalation of steam; lavements of beef-tea, brandy and quinine, &c. I saw her again at 1 p.m.; no improvement; ejecting up large quantities of false membrane, exactly resembling parchment. In the evening no improvement.

February 1st.—Nothing better; had thrown up large masses of false membrane; disease extending to left bronchus, to persevere in remedial means, and to dress blistered surface with mercurial ointment. I paid her frequent visits during the day, but she was not better.

2nd.—Much worse; weaker, and not able to eject the masses of false membrane. Dr. Stapleton saw her with me this afternoon in case that he might deem it of benefit to open the trachea, but he would not advise it. He approved of the plan of treatment. He had never before witnessed a case of pure croup in an adult. He was satisfied fully of the nature of the case, and saw the masses of false membrane that had been ejected.

3rd.—Much worse in every way; unable almost to lie down from the fearful attacks of smothering; quite conscious of the nature of the disease and her danger. In the evening she was evidently sinking, and her suffering most agonizing to witness. Nothing seemed to afford her any relief. At 3 a.m. on the following morning she asked me could I do nothing to save her, after which she fell back exhausted, and sank at 4 a.m.

Remarks.—This was a most remarkable case, not only for its complications, but for the very rare occurrence in an adult of the malady that terminated her life. I never met with a case of pure membranous tracheitis in an adult before, and those amongst my professional brethren who heard of the case had never likewise known a similar. I believe there are two on record. The croup membrane was the most perfect specimen of the exudation I have

ever seen. The first piece was about the size of the trachea, or rather it looked like the windpipe that had been vomited up. This specimen was unfortunately thrown away; but I have preserved several large pieces which I will have great pleasure in showing to any of my professional brethren. It was a strange coincidence, too, that she was attacked with the very malady that she always through life had such a horror of! How such a disease could originate at such a time is strange. She had been exposed to no chill, nor to contagion, if ever such could be classed amongst contagious maladies. Some cause of blood-poisoning, however, may have existed, as the cholera attack looked very like such. I had the sewerage of the house and locality carefully examined, but nothing deleterious was discovered. We know that after parturition the system is very liable to take on septicemia, both from causes *sui generis* and from other external causes, but in this case all the *post partum* symptoms were favourable. There were no portions of the placenta or membrane left in utero, and the lochial and mammary secretions were normal. The simple loss of blood before her labour could not have induced croup. To what then could we attribute the advent of this fell malady? Could we trace it to any hereditary predisposition, or was it merely a case of pure croup, occurring sporadically at an age most unusual for such diseases, as far as we know of them, to occur?

CASE III.—*Gangrenous Eschar of the Tonsils—Death.*

On the 28th December last, a lady residing in the county —, brought her daughter to town to have my advice, being alarmed about her throat, for the last few days especially. The young lady was nearly ten years old, and on entering my study a gangrenous odour was easily recognized. On looking into her throat, both of the tonsils were covered with a black slough, enlarged and dipping into the pharynx by elongated fringes. The latter had a granular appearance, but was apparently healthy. On using the laryngoscope the epiglottis and rima were found congested, but no extension of the disease was then visible. Besides, there was no hoarseness, cough, stridor, nor any tracheal sign of disease, and the lungs were healthy. The voice nasal, and a glairy discharge from both nares; the uvula and hard palate healthy; but the soft palate and arch swollen, but not ulcerated. There was not much dysphagia, but total anorexia. Pulse, 130; skin dry, and burning thirst; urine

scanty; bowels confined; pinched and wasted expression of countenance, despite the most cheerful account the little patient gave of of herself, as she said she only felt a little annoyance from the throat and constant desire to be swallowing. The history of her case is as follows:—In the June previous I had occasion to pay three visits to the country to see another member of the family, who was seriously ill; and on the occasion of my last visit this young lady was brought in to see me by her mother, as she was not quite well. I remarked that she was suffering evidently from some gastric irritation, and advised them to see the resident medical attendant of the family, in case she was not better. I heard nothing further of this case until August, when some of the family called on me, and then I learned that my predictions were true about their youngest daughter, as, after seeing her in June, she had a severe attack of gastric fever, but that she was quite well now, and at their own place at the seaside. I did not see the young lady again until October, when she was brought to me casually on their return home to the county —, but not to see me on her own account, as I was attending another member of the family. I remarked that she was very thin, and her voice nasal; and on looking into the throat was struck with the strange granular appearance of the tonsils, which were enlarged, and looked very much like as if the inside pulpy part of a fig was smeared over them. However, she complained of no uneasiness from them; no dysphagia; pulse quiet; appetite good. I advised her mother to watch her throat, and have their medical attendant to see her when they reached home. I brushed the tonsils over with dilute nitric acid; gave her a wash, containing chlorate of potash; and syrup of bark, three times a day in doses of a teaspoonful. I may as well remark here that about a month previous to this visit she had a severe fall, and hurt her nose; but this accident was kept a secret both from her family and myself up to this period, and it was not until near Christmas that she mentioned this matter to her mother. When brought to me on the 28th December, I asked the mother what treatment had been adopted by their own medical attendant. She replied that Dr. — had seen her now and then, but did not think seriously of it, and had merely directed the governess to brush the throat with a solution of caustic. However, on Christmas-Day the family noticed the peculiar odour, and got alarmed, so resolved to bring her up to town. As there was no further time to be lost, though I mentally gave up the case as hopeless, I directed the mother to remain in

town; and as the family had a house in —square, she at once consented, and had a bed-room prepared without delay, and got the assistance of one of the Infirmarian Sisters. I saw my patient in the evening, and brushed the sloughing mass well with the butter of antimony; ordered gargle of infusion of bark and potassæ chloratis, and the same lotion to be injected through the nostrils; inhalations of steam, lavements of beef-tea, brandy and quinine; syrup of bark every two hours, and the most nutritious dietary, such as jellies, soup, wine, &c.

29th.—My patient expressed herself better to-day, and that she could swallow easier. She vomited up, after gargling, a good deal of sloughy matter; discharge from the nose improved; gangrenous odour the same; bowels confined; tendency to nausea. The throat looked healthier, and the sloughs separating. To continue the treatment. In the evening she was about the same; throat paining her; ordered a little grey powder, and Dover's powder, and a lavement early in the morning, to free the bowels—to inhale carbolic acid, &c.

30th.—No radical improvement; odour the same; brushed the tonsils again with the butter of antimony; bowels free; appearance natural; fever very high; takes her nourishment, wine, medicine, &c., regularly; is most cheerful, and says she is quite well only for her throat.

31st.—No change for the better; complains of being deaf in one ear; gangrenous odour the same, despite all the local applications; feverish symptoms very high, particularly on my evening visit; sleeps well.

1st January—No improvement; applied the caustic to the ulcerated surface; deafness increasing; more dysphagia; slight tendency to diarrhea of an ochre colour, and very fetid; odour of breath the same; ordered to persevere in the remedial means.

2nd.—No change for the better, though the patient herself was so cheerful, and was reading a book on entering her room, and expressed herself as being much better; but the nurse's report of the night was more unfavourable, as she was delirious now and then; very weak, and tending to perspiration; deafness much worse; throat painful; very little appetite; anxious only for ice. Dr. Banon saw her with me to-day, and pronounced the case as one of gangrenous ulcer of the tonsils, and one of very unusual occurrence. I may mention here that she never had scarlatina or ulcerated sore-throat before. He approved in every way of my plan of treatment,

and could not suggest any alteration. He seemed inclined to take a more hopeful view of the case, and thought, as the sloughs were separating, she might recover. He satisfied himself that there was no pulmonary disease, and that the fever was due to blood-poisoning from the absorption of gangrenous pus.

3rd.—My poor little patient evidently worse, despite the most persevering efforts of all remedial means to benefit her; again applied the caustic to the throat; she was quite deaf to-day; no desire for food; still so cheerful; and wrote several letters, and said she was sure she would recover.

4th.—All the symptoms much worse; delirious all night; great restlessness; pulse most rapid; cold, clammy perspiration; gangrenous odour much worse, despite a perfume douch that was continually used in her room.

5th.—My little patient gradually sinking; spoke to me so cheerfully; cannot swallow anything except ice. She expired at 4 a.m.

Remarks.—This was also an exceptional case in my practice, apart as it was from the complication of scarlatina or diphtheria, reminding one of the cynanche maligna of Cullen, occurring as a separate disease. The time had elapsed for any benefit to be expected from treatment when I saw the case, as the blood-poisoning was too general to be removed by any remedial means, particularly in so weak a constitution. Could the fall have had anything to do with the development of this fatal attack? The nostrils were inflamed, and secreted a thin ichorous mucus; but there was no injury to the nasal bones or cartilage, or any tangible sign of any disease resulting from the accident. When I saw the patient in October the disease was evidently commencing—from the peculiar granular appearance in the part—but this I have often seen without any malignant sequelæ. At this stage would excision of the tonsils have warded off the supervening disease? or when the sloughing took place, should this operation have been performed? Was this a local affection at first, or was it merely a symptom of some malignant disease in the system that showed itself only in this locality? It was a strange result to follow from ordinary tonsillitic disease, as we frequently see deep corroding ulcers, abscesses, and diphtheric patches there, and no gangrene ensuing. This young lady had never had scarlatina, measles, whooping-cough, or, in fact, any disease, until the gastric fever in the June previous; was living in a most beautiful and healthy locality; was well nourished, and had all the comforts of life around her; was not

exposed to any contagious influence or mephitic vapour, &c. How then could this terrible and unusual malady have been generated, and was there any plan of treatment that could have averted the sad issue of the case, if adopted at an earlier period? My own idea is that if some powerful escharotic had been applied a month earlier, that the disease might have been removed, and the sloughing averted, save what accrued from the topical application.

CASE IV.—*Chronic Tonsillitis—Ozena of the Nose—Recovery.*

The subject of this case was a lady, the wife of an officer in one of the regiments of the Dragoon Guards, and I first saw her in October, 1865. She was then stopping at an hotel, and was labouring under a severe attack of pleuro-pneumonia, contracted by exposure to cold—sitting between a door and open window, a few nights previous to my seeing her. She had always been healthy, was a native of London, married about two years, had no family; her general health in every way good previous to this attack. By the usual treatment she recovered perfectly from this attack, and I did not see her again until January, 1866, when I attended her for some slight attack of catarrh. She had removed to a house in the north suburbs, to be near the barracks in which her husband's regiment was stationed. My next attendance upon her was in February, as she had a severe fall, being thrown out of their phaeton, at Howth, whilst going down a hill. She received a good many abrasions about the face, and there was slight concussion of the brain. By care all danger passed away, and I did not see her again until April, when she had an ordinary attack of tonsillitis; the only remarkable incident connected with the attack being the difficulty of healing the superficial abrasions over each tonsil. My next attendance upon her was in August, when she had a very severe attack of cholera. Her convalescence from this attack was very slow, and about that time her throat got very sore again; but no ulcer visible; simple congestion all over the palate; uvula, velum, pharynx, accompanied with dysphagia. There was no cough, hoarseness, or laryngeal irritation, and scarcely any constitutional disturbance. It may be as well to state here, that there was no evidence, in any way, of any syphilitic taint. She denied all knowledge of such, nor was there any light thrown upon this supposition by examining her with the speculum, which I did carefully; but the uterus was healthy. The treatment I adopted to relieve her did not effect a complete immunity from the attack, so

she went over to London for change of air, hoping to get free from all symptoms of delicacy by the trip. I did not see her again until the first week in November, when she called on me during my "at home" hours, in great distress with her throat. It appeared that during her stay in London the disease became much worse, and the pain in swallowing more severe, so much so that she sent for Dr. West, under whose care she remained for some days. His treatment was principally topical remedies. On examining her throat it was of a deep red colour every place, and two ulcerated patches in the fold of each tonsil; the voice nasal; slight deafness; great dysphagia; general irritability of the entire system. My treatment was both topical and constitutional, the former consisted of the application of dilute nitric acid to the ulcers, gargles of potassæ chloratis, counter-irritants, &c.; and the general treatment, the administration of syrup of bark with minute doses of the oxy-muriate of mercury, full diet, wine, &c. She also inhaled various medicaments, but very little benefit accrued. I now had Dr. Stokes to see her, who considered the case as one resulting from some debility of constitution, either scrofulous or syphilitic. He could not suggest any remedy save change of air, and advised her removal to Rathmines. She was soon located there in one of the very best situations, but up to the first week in December there was no improvement in the throat, but, on the contrary, the pain and irritability began to increase. About the 7th a speck of a dark colour was visible on the palate, and on passing a probe into it, evidence of perforation was plainly discernible, and the discharge from the posterior nares was very fetid. I touched the spot with dilute nitric acid, and on the 8th, as no improvement was visible, I had Dr. Smyly to see her with me. He examined her most carefully, and also used the laryngoscope, and came to the conclusion that it was either a scrofulous or syphilitic ozena. In addition to the means I was adopting he suggested that the ulcerated spot on the palate should be brushed with the butter of antimony, to have the spray of a lotion made with one grain of corrosive sublimate to an ounce of water, administered by means of the pulverizer, daily, to the throat, and to have large doses of quinine, &c. Up to the 23rd this treatment was carefully carried out, but no amendment followed. The perforations in the palate had increased, and all the local symptoms of irritation had become worse. About this time the regiment that her husband was in, was ordered to the West of Ireland, and as he could not get permission to come up to town for the Christmas, she determined to join him, and despite all my remonstrances to the

contrary, she left Dublin on Christmas Eve for a sea-port town in the West. I heard no more of my patient until the end of January of the present year, when she called on me, and announced herself as being perfectly well, and that she was cured by an apothecary in the country, with sarsaparilla! On inquiry, she said, that for the few days following her departure from the city, the throat had become much worse, and the slough in the palate increased rapidly; that the proprietor of the hotel in which she stopped, had recommended her to see the Doctor who attended the house, which she did; that on his visiting her, he first gave her some draught which he said *was to draw the matter out*; that he told her to use nothing but warm water as a gargle, and gave her large quantities of sarsaparilla to drink; and that in about three weeks she was quite well. On looking into her throat, there was a depression in the palate where the ulcer had existed, but it was quite healed, and a silvery-looking cicatrix covering it, the voice was slightly nasal, and the throat still congested; but the bulk of all her annoyance was removed, and she appeared to be in renewed health and spirits.

Remarks.—The most remarkable feature in this case was the obstinate nature of the attack, and its indisposition to get well, despite the most active and varied treatment adopted for its removal. It was, in my opinion, more a chronic ulcer, occurring in conjunction with tonsillitis, than a case of ozena, as in the latter disease also there is some permanent injury to the nasal cavities, particularly if any syphilitic taint is present. In ordinary cases of ozena in girls of a scrofulous diathesis it is mostly the anterior nares that are congested and thickened, with large quantities of thick glutinous matter; with impaired sense of smell; but in this case the olfactory function was more than ordinary acute, and the anterior nares were very little congested. The idea of some latent syphilitic attack suggested itself to each of the medical men that saw the case, but there was no tangible sign of its existence, either cutaneous or uterine, and still the vaunted cure by sarsaparilla would again obtrude the idea before the mind of such having existed. We could not attribute the remarkable and almost sudden recovery to the effect of sarsaparilla, and if any mercurial preparation was given with it, such had failed before, in conjunction with the syrup of bark, to afford any relief. The benefit was owing, no doubt, to the change of air, and to the ulcer in the throat having reached its acme; but the patient is rather sceptical on these points, and attributes her recovery solely to the sarsaparilla.

ART. VIII.—*On the Use of Iodide of Lead in Cutaneous Diseases. Cases with Observations.* By T. W. BELCHER, M.A., M.D.,
Dubl., &c.; Fellow, Censor, and Examiner in Materia Medica
and Medical Jurisprudence in the College of Physicians; and
Physician to the Dublin Dispensary for Diseases of the Skin.

IN the number of this Journal for August, 1848, Vol. vi., pp. 29, &c., the late Dr. Neligan, in his well-known Essay on Eruptive Diseases of the Scalp, introduced, to the profession in Ireland at least, the use of iodide of lead in the local treatment of porrigo. His claim to originality in this respect was subsequently denied by a reviewer in the *British Foreign and Medico-Chirurgical Review* for April, 1849; and this denial led to subsequent re-affirmation by Dr. Neligan of his claim above mentioned in Vol. viii. of this Journal; where on page 164 the reader will find all he had to say on the subject.

I have lately had under my care several private cases, in which I have used iodide of lead externally with great advantage; and as neither in the last edition of *Pereira's Materia Medica*, nor in the exhaustive *Traité de Therapeutique et de Matière Médicale*, by Trousseau and Pidoux; nor even in Professor Macnamara's last edition of *Dr. Neligan's Materia Medica* is much to be found about this medicine, which has been more or less in use for thirty-six years, it may perhaps be useful to give an abstract of a few cases in which it was used externally.

CASE I.—In April last Dr. Owens, of Kildare-street, asked me to see with him a patient of his, a gentleman advanced in life, who had long been tormented with what proved on inspection to be chronic eczema. The disease was apparent on various parts of the body, but particularly on the legs and thighs; the itching was intense, and many preparations had been tried with little benefit. At first I suggested that an ointment of subacetate of lead containing glycerine and chloroform should be applied to the disease; and I had great hopes that this would produce immediate relief, as I had known it to do in other cases which I had treated shortly before that date. However it produced little, if any, relief in this case; and accordingly, on my suggestion, Dr. Owens agreed to try the iodide of lead, which was applied in the form of ointment, twelve grains to the ounce, with one drachm of glycerine, and forty minims of

chloroform. This procured immediate relief from the intense and aggravated itching; and the patient, having the advantage of frequent supervision from Dr. Owens, gave the remedy fair play, so that shortly after, on my seeing him again in consultation, I was agreeably surprised at the result. The disease had in great part disappeared; we agreed to continue the treatment, adding to the ointment as much chloroform as the preparation would take up. A few days ago I was gratified to learn, from Dr. Owens, that the patient was quite well.

Of course he took constitutional remedies as well as using local ones. It is doubtful whether in this case the iodide of lead, *per se*, would have cured the disease; chloroform certainly would not; but the conjoined use of the two was most beneficial; and I have no hesitation in recommending a preparation, such as I have above described, to the more general use of my professional brethren.

CASE II.—I was called in to see a young lady who was subject to erythematous eruptions on the face, amounting frequently to erysipelas. At this time the attack was of the latter nature; the face was red and swollen; not painful and itching. Besides giving a purgative, I ordered an ointment of about the same strength as that above mentioned. Its good effect was almost immediate. In two or three days I saw her without a trace of the affection for which I had first visited her. This was always before that time constant to a greater or less degree; and had been more or less benefited by various local and constitutional medicines; but now it wholly disappeared, and has not since returned, so far as I know.

CASE III.—A young gentleman, an under graduate of one of the colleges in Oxford, of excellent general health, given to open-air sports, and without any evidence of personal or hereditary syphilitic taint, consulted me a few months since for psoriasis, which he had on most parts of his body, save his face. I directed him to take Neligan's ioduretted solution of the iodide of potassium and arsenic, described on page 268 of my edition of his work on Diseases of the Skin; and to use locally Hebra's tincture, which I have described on page 114 of the same work, and also in a paper in the number of this Journal for May, 1865. He was further directed to take vapour and tepid baths, and physical exercise. I have seen him several times since his first visit; and always with the evidences of marked improvement in his case. At length I stopped Hebra's

tincture, and a similar preparation of rectified spirit, soft soap, oil of cade, and oil of lavender, which for a short time previously I had substituted for the former; and prescribed for him instead of them the following ointment:—"Iodide of lead, twenty grains; simple ointment, seven drachms; glycerine, one drachm."

He was directed to continue the constitutional treatment as before. In about a fortnight I perceived the disease to be greatly improved; in fact the psoriasis may be said to have disappeared, so far as external appearance went; and the skin had quite regained, in most places, its natural colour and texture. I know the amelioration must be largely due to the use of the constitutional means above noted; but in no case treated throughout as this was at the outset (see above) have I seen the same speedy repair of the skin and its function as was so very remarkable in this instance.

I might mention several other private cases in which I tried it with quite as much benefit as in the above, but they would inconveniently extend the length of these observations. The ointment of the iodide of lead of the present *Pharmacopœia* (1867) I conceive to be very much too strong for such cases as I have above noticed. It contains sixty-two grains to the ounce; whereas from a fifth to a fourth of that quantity is quite sufficient, and more useful than the pharmacopœial strength. In the cases of porrigo, in which Dr. Neligan first used it, he put thirty grains to the ounce; and therefore we read with little surprise that in some cases "the iodide of lead ointment excites a certain degree of inflammation." No such result follows the use of the weaker preparation; but the stronger is nevertheless useful in other conditions of the skin than those I have described.

ART. IX.—*Report on the recent Epidemic of a new Disease variously entitled Cerebro-spinal Arachnitis, Black Death or Black Typhus, or Malignant Purpuric Fever.* Transmitted to the Director-General Army Medical Department. By Surgeon J. C. HAVERTY, 52nd Light Infantry; Licentiate Royal College of Surgeons and King and Queen's College of Physicians, Ireland.

THE materials wherewith to draw up a report upon this new disease, or association of diseases, for which a strictly appropriate title would hardly as yet appear to have been found, are, as regards

individual regiments, extremely scanty; and from the very limited experience afforded even by the collective history of the outbreak so far as it has gone, it would seem quite premature to adopt any definite theories or conclusions upon so important a subject.

Though very generally written and spoken of as an epidemic, the disease has been unaccompanied by the widespread dissemination and destruction to life usually held to be characteristic of epidemics of severe disease—cholera, for example—with which it appears to have many features in common. As with the literature of cholera, too, the new affection, if it only last long enough, seems likely to furnish a productive field for speculation and conflict of opinion regarding its origin, its essential physiological and pathological conditions, its mode of propagation, &c., &c.

In the recent discussion of the subject at the King and Queen's College of Physicians of Ireland, much diversity of opinion on these points was expressed; the weight of authority, however, was decidedly in favour of the theory of blood-poisoning as the starting-point of the disease, and of its being, in all probability, contagious. Nevertheless it will, perhaps, be pretty generally admitted that the evidence in favour of either view, but especially the latter, needs considerable strengthening from further experience, should we be unfortunate enough to be provided with it; for the as yet isolated or sporadic character of the cases, especially those occurring in regiments, can hardly be said to support them.

The rapid rate of accumulation and propagation of the "*Materies Morbi*" of contagious diseases, so generally recognized, and of which cholera (whether or not it be held to be contagious) furnishes such frequent examples, must be subject to some strangely exceptional laws under the sporadic condition, when, aided by all the favouring circumstances of well-filled, badly-constructed and ill-ventilated barrack rooms and hospital wards, an intensely virulent disease fails to present a single instance of contagious influence. Of the six cases which lately occurred in the 52nd and 48th Regiments in Richmond Barracks, there is, in my mind, no ground whatever whereon to set up the existence of any contagious element. Two of my own four cases occurred in one company of the regiment, and came from the same barrack room, but any interpretation of that circumstance in the line of contagion is met by the objection that its operation, if of any weight, must have extended further; and by the fact that all the cases were treated, without any attempt at isolation, on the same floor of a small wretchedly constructed

hospital, admitting of no isolation of special cases. The only survivor remains, after more than two months from the date of attack, still so imperfectly convalescent as to be able barely to walk across the ward. He has passed through all the stages of the disease, surrounded by the usual run of hospital patients, without any bad consequences to any of them. The same remark applies to the three more virulent cases of the disease, all of them fatal, which were previously treated; and to those treated in the adjoining hospital of the 48th Regiment, in which the same defective construction and arrangement exist.

The numerous class of diseases in which the mysterious and subtle actions of infection and contagion, although in their intimate nature and mode of operation all but a sealed book to observers, are, nevertheless, fully and generally admitted, and in which their destructive agency is recognized, are accompanied, for the most part, by certain inexplicable but familiar conditions, to which, for want of a better, the term septic might perhaps be applied. A few of the more aggravated cases of the "new disease" are described as having exhibited marked disorganization of structure at a very early stage, and to an intense degree immediately after death, but the cases which came under my own notice presented no such well-marked peculiarity; and the young soldier of my regiment now recovering was frequently remarked by myself and professional friends who saw him at various stages to have about him none of the peculiar features of contagious disease. His aspect and all his symptoms, from the commencement to the present time, were those of organic disease, presiding as it were, and after the first few hours expressing itself in comparatively light functional derangement. The purpuric eruption, which showed itself rapidly under the influence of what I cannot help regarding as an organic cause, disappeared as rapidly as the constitutional shock from this organic cause ceased, and was succeeded by steady and persistent reaction. The theory of a blood-poison appears to be in no way irreconcilable with an organic affection of the cerebro-spinal membranes as its first result, nor with absence of contagion; but it seems to me quite as rational to attribute the "first cause" of the disease to the strange and exceptional atmospheric conditions which so long prevailed in the early months of the year.

A marked tendency to asthenia in other affections, even in the mildest forms of disease, was generally observed during those months, and was very apparent in a great many of the men under

my own treatment. This fact would, perhaps, in relation to the etiology of the disease, add little or no weight either to the blood-poison and functional theories of the disease, or the atmospheric and organic views here advocated, but might certainly be expected to favour propagation by contagion were such an element in operation.

Whether the cerebro-spinal affection be taken as the essential expression of the disease, or be looked upon in the light of a complication only, it is that which evidently gives most character to the disease all through, and which drags its slow process of repair over a period of many weeks, perhaps months, attended with little or no functional derangement of any kind, but with intense debility.

An abstract of cases read at a meeting of the Medical Society of the College of Physicians of Ireland, is hereto appended.^a The last in the list was the only man who recovered, and he is still so weakly that it seems more than probable another month or two will pass over before he is in a fit state for duty. The worst cases of cholera in the enervating climate of India never had so protracted a stage of convalescence as his.

Since the date (22nd May) to which period the history of the case then reached, the man, with occasional exceptions, made slow but steady progress towards complete recovery; the rigors, more or less prolonged, gradually gave place to a simple sensation of general coldness of surface, which returned daily for a week or ten days, and gradually ceased altogether. There was during that time, also at intervals, very severe pain, either of head or limbs, and unequal dilatation of pupils. A most marked disposition to drowsiness was also present, the lad being almost constantly asleep for several days. A little later, however, all those unfavourable symptoms disappeared, and no interruption to his convalescence occurred.

^a See Transactions College of Physicians, p. 185.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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2. *The Insane in Private Dwellings.* By ARTHUR MITCHELL, A.M., M.D.; Deputy Commissioner in Lunacy for Scotland. Edinburgh: Edmonston & Douglas. 1864. 8vo. Pp. 97.
3. *A Treatise on Emotional Disorders of the Sympathetic System of Nerves.* By WILLIAM MURRAY, M.D. London: John Churchill & Sons. 1866. Pp. 118.
4. *Medicine and Psychology. The Annual Address to the Hunterian Society for 1866.* By DENIS DE BERDT HOVELL, F.R.C.S.E. London: Bell & Daldy. 1866. Pp. 88.
5. *A Practical Treatise on Apoplexy, with an Essay on (so-called) Nervous Apoplexy, on Congestion of the Brain, and Serous Effusion.* By WILLIAM BOYD MUSHET, M.B., London. London: John Churchill & Sons. 1866. 8vo. Pp. 194.
6. *Observations on the Pathology of Some of the Diseases of the Nervous System.* By SAMUEL WILKS, M.D. Guy's Hospital Reports, Third Series, Vol. XII.
7. *Remarks on Some of the Functional Diseases of the Nervous System.* By SAMUEL WILKS, M.D. Guy's Hospital Reports, Third Series, Vol. XII.

IN the Faculty of Medicine, in University College, London, a course of lectures on mental diseases has been introduced, and Dr. Sankey appointed to the chair; it also appears that arrangements have been made whereby the class have the opportunity of seeing the insane in asylums. In Edinburgh and in this city, physicians

especially conversant with mental diseases have formed classes for their study both systematically and clinically; but we do think the boards of our licensing bodies and our schools have failed to recognize the importance of a knowledge on the part of practitioners generally of this branch of medicine. This has partly arisen, we believe, from a growing disposition to exclude specialities from the general curriculum of the student; nothing, in our opinion, could be more ill-judged. We are convinced that the science and art of medicine are largely indebted for their recent advances to the arrangement in accordance with which men select some special department for their particular study. The slighter shades of difference between the various members of each group of diseases are most likely to be appreciated by those who have frequent opportunities of comparing one with the other. The greatest perfection of detail in treatment is, other things equal, most likely to be attained by him who has his powers of invention most frequently stimulated by the emergencies of actual practice. At the same time the arrangement has its disadvantages. Our nosological divisions are but artificial. As in botany so in medicine, true analogies are often found where, at first sight, there is little resemblance to be discovered. The comparison of diseases which, unlike in some respects, in others resemble one another, is often suggestive of missing links in our pathology. Above all, must we remember that the mental process which occurs when the physician stands at the bedside, essentially consists in tracing the likeness of the case before him to others with whose progress and management previous experience has made him familiar, that he may anticipate its course, and direct its treatment. In obscure cases we are obliged to admit the frequency or the rarity of an affection as an element in the formation of our diagnosis.—and every one knows how much more disposed we are to look to our own individual than to general experience in forming our estimate. The specialist, therefore, sometimes imagines he sees the malady with which he is most conversant where it is not present; and still more likely is the existence of a disease to be overlooked by one who has never seen it. We cannot, therefore, too strongly condemn the omission of any department of medicine from the curriculum of the student. Virtually, this has been done with regard to insanity, and, we are convinced, with a very prejudicial effect. The physician in ordinary practice, if familiar with the causes which develop it, and with the early indications of its approach, may prevent the supervention of a condition which

all the skill and appliances of the specialist may be powerless to remove. The public, moreover, form their opinion of our knowledge of matters, of which they admit themselves incompetent to judge, by the sagacity we show in dealing with those with which, in some degree, they are themselves acquainted; this they have become in regard to many of the aspects of mental disease—the ever-recurring questions of human responsibility, the management of criminals, the formation of character, introduce psychology into the studies, not only of the divine and the law-giver, but of every man of liberal education. Metaphysics were found so barren and useless that their study was little pursued outside the universities; but a system of mental science has now arisen, built up by induction, and giving promise of applicability to the solution of social problems. This has been studied, and will be still more, by thoughtful men in every walk of life. It alone will never make them competent opinions on insanity, which has its corporeal as well as its psychical phenomena; but it will prevent them accepting, because propounded by a medical man, explanations the insufficiency of which their own knowledge of one side of the subject may show them. A practitioner who had seen nothing of the actual practice of obstetrics, would surely hesitate to decide on operative interference with labour on the strength of knowledge derived from books, and yet he is expected, because he possesses a licence as a physician or surgeon, to pronounce authoritatively on a question as grave and difficult, without having had the previous training which alone could fit him to do so. For all these reasons we hope to see the study of mental diseases become a regular part of medical education; and of all the works we have read, we consider Dr. Sankey's lectures give most clearly, and in small compass, an exposition of our knowledge regarding them. Certainly no physician who has devoted himself to their treatment should be without this book.

General paresis, or the general paralysis of the insane, as it is commonly called, the author considers a distinct disease; but he regards all the other varieties of insanity, which have been described as merely phases or stages of one malady—emotional disturbance: some degree of depression or melancholy is, in his opinion, invariably the first symptom, to which may succeed violence, and when the case becomes chronic, delusion; intellectual perversion then becomes more prominent, and sometimes maniacal and melancholic symptoms alternate; while, in every case of long standing, dementia or imbecility at last succeeds. In secondary attacks, however, and

even in primary attacks in the aged, the stage of depression may be absent. Recurrent insanity, so important in its legal bearings, Dr Sankey discusses at length, and points out how that consciousness of having been insane, which is characteristic of genuine recovery, is usually wanting during the lucid intervals; showing that in reality there has never been complete sanity. The connexion of epilepsy and insanity is considered, as is also with great fulness, general paresis—into the morbid anatomy of which the author has made many original investigations. His view of the pathology of insanity is probably as satisfactory as in the present state of our knowledge it could be. From certain derangements in the processes of assimilation the blood may be altered in quality; but in many cases the early phenomena seem rather to indicate alteration in the quantity circulating through the brain. This will lead to molecular change, as may also the frequent repetition of impressions of a depressing character arising from the surroundings of the patient. There is a common idea that our advancing civilization favours the production of insanity, but the author's inquiries lead him to the opposite conclusion—that the wealthier and more educated classes seem decidedly less liable to it than their humbler neighbours; hereditary tendency he recognizes as a predisposing cause; while the chief exciting causes, whether physical or moral, are all of a depressing nature. He gives a detailed account of the various appearances which he has found after death; in acute cases, the most marked conditions were injection of the membranes and of the brain itself; increase in the specific gravity both of the grey and white substance, and increased weight of the cerebellum, as compared with the cerebrum. In chronic cases the specific gravity was found lower than in health, and the layers of grey matter unusually distinct; while in dementia there appeared to be an anemic condition of brain. In some cases, too, no changes appreciable by our present means of investigation were to be discovered. In the treatment of insanity, Dr. Sankey is strongly opposed to depressing remedies; he particularly condemns the attempt to allay paroxysms of mania by tartar emetic or digitalis; opium he only uses as a last resource in certain cases of long-continued want of sleep. The first indication, as he points out, is to rest the brain; and, as a general rule, this can be fulfilled in an asylum infinitely better than at home. He explains at length the old and the new systems of treatment, in both that of restraint and that of non-restraint, as put in practice in the present day: the object is to

produce a mental effect; but the first aims at doing so by intimidation; the second, by conciliation, and by creating pleasurable feelings in the mind of the patient. In the eleventh and twelfth chapters he explains, with clearness and minuteness, the details of asylum management. We recommend their careful perusal to all who have to do with the insane. In the thirteenth lecture, he gives some account of the legal relations of lunatics, and the formalities required in signing certificates regarding them; he then proceeds to show that the various tests of insanity which have been proposed have all broken down; and he explains the way in which we should proceed in the investigation of a case in which our opinion as to the mental state is required. He says:—

“Under the difficulties which have accumulated around the subject, from the separate considerations of it from different points of view by the lawyer, the metaphysician, the physiologist, &c., I should advise you to address your examinations simply to the question whether there is disease present or not. I conceive that the presence of actual disease would exonerate a person from responsibility of acts resulting from the disease. As a broken leg will exonerate a soldier from marching, a mental disease surely ought to exonerate a man from all mental acts.

“As I have already said, the question is the same whether your opinion is sought from one motive or another; those who ask your opinion will doubtless give you sufficient reason why you should undertake the investigation; they will relate to you some act, some alteration in conduct, behaviour, dress, &c.; you will therefore be furnished with some starting point. They will present you with presumptive evidence of insanity. In undertaking an examination the first thing necessary will be that you should have the patient before you. I would advise you not to give an opinion on any case merely related by another, for, in the first place, the facts may be disputed, or may be incorrectly stated, even though they are not disputed. A medical man does not examine his patient on oath; it is necessary, therefore, to appeal to physical signs of disease, which cannot falsify, as well as to what are called the rational signs, or what is related by the patient; you must observe the patient’s expression of countenance, his manner and bearing, and also question him yourself, to ascertain the reality of his mental peculiarity and discover any signs of impaired mobility. You must not trust to another for evidence on these points, for the medical man’s senses have to be trained for a proper appreciation of the symptoms of disease.

“Now, we will suppose a patient is submitted to you who may be feigning insanity, and let the case be one in which the person pretends to have delusions. You would trace the symptoms back to their origin. A

delusion is a symptom connected with advanced mental disease. The following are the chief facts you would investigate.

“Are there febrile symptoms present? If so, either the case is removed from the class of mental disease; or, the patient is insane, and labouring under some intercurrent disease, which causes the febrile disturbance, the nature of which you would determine.

“But the patient has no febrile symptoms. Is the present a primary attack? If so, what are the symptoms which preceded? Have there been melancholic or maniacal symptoms? If both, which came on first? If it is pretended the maniacal preceded the melancholic in a primary attack, either the patient is feigning or it is not a simple case of insanity. But if the melancholic preceded the maniacal, what were the symptoms of the melancholy? Examine for morbid apprehensions, for illusions of the senses. If these be duly described, and in the proper order of sequence, there would be strong evidence of the existence of mental disease.

“But the patient has had a previous attack. If so, what was the nature of the first attack? If there was no melancholic stage, grave doubts would exist (unless the patient was epileptic). But if the first attack was melancholic, trace its progress, and ascertain if the patient admits having been insane. A distinct previous attack, with evidence of all the stages, viz., melancholy, morbid apprehensions, illusions, maniacal outbreaks, and recovery, would go far to prove the reality of the second attack, though it began by sudden maniacal outbreak with the recurrence of maniacal violence after a few days’ indisposition; and the evidence would be more complete if on recovery the patient denied the insanity. The case would answer to the diagnosis of recurrent mania.

“Or, say the case commenced without depression, and is a first case. It is possible that it is one of general paresis; and, if so, there will be, probably, evidence of squandering of money, of stripping or indecent exposure, of petty unconcealed thefts, and in a few days unequivocal maniacal raving, with restless movement and general delirium. I do not give the above as a complete analysis, but as a specimen of the mode by which you could analyse the case presented to you. Remember that all diseases necessarily go through certain stages; their progress is a known and well-observed fact; the sequence and order of the symptoms are also simple matters of observation. The order of the morbid process is a necessary phenomenon. We may not always understand why one set of symptoms succeeds another in every case, but doubtless there is a necessary sequence of one to the other in all. We may not clearly understand why the secondary symptoms of syphilis succeed the primary. Nor, perhaps, why pericarditis should follow and not precede articular rheumatism. One phenomenon, we know, is connected with the other, though we do not perceive the connecting links. There may be a time when the reason of the sequence will be evident. In cases of eruptions on the skin

of doubtful syphilitic character our diagnosis would be assisted by a clear history of the pre-existence of primary symptoms, and the diagnosis would be rendered all the more clear by the presence of other symptoms, as sore throat, &c. ; but it would be a necessary part of the evidence that the events followed each other in a given order or sequence. And one or two patches of suspicious character on the skin will not prove that the patient has a syphilitic disease unless the evidence goes also to show that they succeeded the primary sore. If they had existed decidedly before the primary sore occurred the diagnosis would not be assisted. Again, an isolated symptom in any other disease is not considered sufficient for the diagnosis. Dyspnœa will not prove that pneumonia exists, nor will dyspnœa and cough, nor dyspnœa, cough and pain, nor these with general dulness on percussion. There are many conditions of the viscera of the chest which may be accompanied by these symptoms, and to separate one from another you would not only be able to establish the presence of all the phenomena peculiar to each affection, but you would also investigate the duration and sequence of each and the relation of one to the other.

“The diagnosis of insanity is to be made precisely by the same means—by precisely the same mode of procedure.

“One isolated insane act is not enough to prove the existence of insanity. There are acts which would raise the presumption, as rusty sputa would raise a strong presumption of the presence of pneumonia; but many sources of error surround every isolated fact; there is scarcely an irrational act which may not be under varied circumstances a rational act, and therefore every case for a medical opinion should be submitted to your own personal examination.”

We recommend Dr. Mitchell's volume to the perusal of all who are officially connected with the care of the insane. His observations on the defects in the Scotch enactments regarding them are, of course, of interest principally to Scotch practitioners; but the main question raised is one of very great importance both to physicians who have devoted themselves to the treatment of mental disease, and to the public at large. At the present time, more particularly, does it deserve the consideration of the authorities. In Ireland, during the past five years, very large sums have been expended in providing additional hospitals for the insane; and seeing how great a number are, owing to want of room in these institutions, detained in our gaols and workhouses, it seems probable that unless some new mode of dealing with them be adopted, extensive additional asylum accommodation will be required, involving, as it must, heavy outlay at first, and continuous expense afterwards. Now, Dr. Mitchell, from his position as Deputy-Commissioner

for Lunacy in Scotland, has had opportunities for investigating very fully the conditions of the insane who live throughout the country in private dwellings, either with relations, or with families who are paid for taking charge of them. As was to be expected, demented persons so situated were, in many cases, improperly treated; sometimes from deficient knowledge and want of means; and sometimes from lack of conscientious feeling on the part of their guardians. But, on the other hand, as a result of these inquiries, Dr. Mitchell became convinced that many, both of the congenitally imbecile, and of those whose acquired insanity had become chronic, found in private dwellings a more suitable abode than within asylums. In Scotland, as elsewhere, asylum accommodation has been, of late years, found insufficient. Dr. Mitchell does not believe that a larger proportion of the population than in former times become insane. He seems to think that asylums have got overcrowded, because, while the number annually received has kept almost invariable, the annual deaths have, under the improved treatment, greatly diminished. We are not quite prepared to admit this explanation as sufficiently accounting for the crowded state of our asylums. But in any case the fact remains; and, as Dr. Mitchell forcibly points out, it is a very great evil; it causes delay in the admission of acute cases, which are thereby denied the benefit of treatment at the very time when there is most hope of its being successful; while the family of the sufferer, obliged to devote their time to caring him instead of attending to their work, are not unfrequently permanently pauperized by his illness. Dr. Mitchell proposes, therefore, to relieve the asylums by carefully selecting chronic and manageable cases and placing them with families of their own rank through the country; the saving to the public would be great. During five years the average daily cost of each pauper in an asylum was 1s. 3 $\frac{3}{4}$ d., while in private dwellings it was only 5 $\frac{3}{4}$ d. The experiment has been tried on a tolerably large scale in Scotland, and for centuries at the well-known Gheel settlement in Belgium, and in both cases with most encouraging results. The prolongation of life among the chronic and incurable cases was very great. The average annual mortality during four years being under 5 per cent. against a mortality exceeding 10 per cent. among similar cases in poorhouses. Dr. Sankey, in the work we have just noticed, insists on providing for the insane occupation and amusement suitable to the rank in life from which they have come, and intercourse with the sane; and nearly every one who has seen much of them will agree with Dr. Mitchell, when he says:—

“Many lunatics are quite capable of appreciating the amenities of domestic life, and of enjoying the individuality which they acquire in private houses, and which they cannot have while part of the population of a large asylum. Though their mental powers may be deficient, or their intelligence perverted, many of them still have ‘warm affections, and are capable of deriving pleasure from social intercourse.’^a To such patients the weary monotony of prolonged confinement is irksome, and injurious at least to their bodily health, if we may judge by the improved physical wellbeing and greater chance of living, which we know they acquire by removal to more natural or less artificial surroundings. But it is probably injurious also to their mental health, for it is a generally received opinion now that ‘all great aggregations of permanently diseased minds is an evil which as much as possible should be avoided, as their tendency is undoubtedly to lower and degrade each constituent member of the mass.’^b It is clear therefore that continued confinement may be an injury to many of those patients for whom the appliances of an asylum have ceased to be necessary, and that, under proper arrangements, their removal may become the source of increased comfort, happiness, and general wellbeing.”

We must remember that the reason why home life is generally so unsuitable for those whose minds have become affected is, that there all the worries and anxieties which have contributed to develop the disease still fret and press them; home life freed from these vexations is a very different thing; and for such cases as those described by Dr. Mitchell, we are persuaded it would be infinitely more suitable than residence in an asylum. While, however, we do not doubt that physicians accustomed to the insane could easily select cases which would be benefited by residence in a comfortable home under a judicious guardian; we would anticipate great difficulty in finding (in such circumstances as to render it worth their while to board a pauper lunatic) many persons who had the strength of character to make them trustworthy custodians; yet the following account of the condition of the insane who have been placed in private dwellings at the cost of the city of Edinburgh, shows that such have been found, and we are sure its perusal will induce those who have a special concern in these matters carefully to examine the merits of such an arrangement:—

“Almost without exception the patients thus disposed of are found to

^a Rep. Gen. Board of Lun. for Scot., ii. 43.

^b *Op. cit.* ii., 41.

be contented and happy, and to exhibit an improvement in their physical health. They are treated as members of the family, occupy the same sitting-room, and eat at the same table. They are clothed as the villagers generally are, and most of them go regularly to church. They send and receive letters, and are visited by their friends, and occasionally by the clergymen of the locality. They have tea-parties and pic-nics. Their occupations are varied, and usually such as they have been accustomed to. Some are chiefly employed in ordinary household work, and others in knitting and sewing. One acts as nurse to her fellow-patient, who is old and infirm. Some of the men do field-work and look after cattle, and one was met returning from a neighbouring village to which he had been sent with butter and eggs. In short, their time is spent in occupations of a quiet and commonplace character, which are not, however, the less useful or proper on that account. Care has been taken to secure comfortable sleeping accommodation, and each patient has been provided with a separate bed. As a rule, the best room in the house has been made the sleeping-room, and it is generally snugly and fully furnished. In one or two cases, indeed, the bed-room is quite equal, as regards comfort, to what is furnished to better class asylum patients. The guardians are persons reputedly of good character, and without any such employment as would take them from home. The common remuneration is 5s. per week, body-clothing not included."

Dr. Murray maintains that emotions produce derangements of the viscera, and that derangements of the viscera cause distressing emotions; and that in both cases it is through the sympathetic system that the action takes place. Every practitioner is aware that the spirits are often intensely depressed by disease, especially by derangements of digestion, and of the reproductive organs in both sexes. Indeed, in this knowledge, a large portion of the public share; equally well known is it that a tranquil contented mind is, in the highest degree, favourable to the well-being of the entire system. These are the very conclusions to which Dr. Murray's observations have led him, and we do not think that he has made our knowledge much more precise as to the nature or management of the conditions he professes to describe.

We are informed, on the title page, that *Medicine and Psychology* was the address delivered at the Hunterian Society in 1866. The author speaks more than once of the necessity of medical men thinking more of curing their patients than of merely investigating disease; and inveighs against practitioners who treat hysterical

ladies as if they could get well if they would. These two ideas rise with some little distinctness out of the address; but with these exceptions, we have failed in discovering at what Mr. Hovell is aiming.

Dr. Mushet's book consists of two essays. "Part I. Apoplexy (Cerebral Hemorrhage)." "Part II. On (so-called) Nervous Apoplexy, on Congestion of the Brain, and Serous Effusion." The author's object being, as we are informed in the preface, "to extricate apoplexy, as a substantive disease, from an assemblage of symptoms—*i.e.*, from the multifarious phases of coma." He tells us at the outset what he understands by apoplexy. "Apoplexy may be defined as a more or less sudden impairment of the functions of the brain and nervous system—of consciousness, motion, and sensation—from extravasation of blood into the substance, or upon or between the membranes of the brain, arising from internal causes."

Cerebral hemorrhage is, therefore, the subject of Dr. Mushet's first essay. He quotes the conflicting conclusions at which different physiologists have arrived regarding the cerebral circulation, and gives it as his own opinion that it varies both as to the relative distribution of the blood in the arteries, veins, and capillaries, and also as to the absolute amount within the cranium, but that these varieties, however produced, have, *per se*, little or no effect in inducing cerebral hemorrhage—atheromatous or calcareous degeneration of the walls of the blood vessels within the brain, he holds to be a condition without which extravasation never occurs, but which alone is not sufficient to produce it, as such degeneration exists in a very large number of aged persons, who yet do not become apoplectic; other conditions seem necessary, and these the author considers to be morbid states of the heart and kidneys; he gives eight unselected cases, in all of which, along with atheromatous degeneration of the vessels, hypertrophy, attenuation, or dilatation of the left ventricle existed, and in all of which there was likewise evidence of more or less renal disease; this connexion, he proceeds to prove, has been greatly overlooked. He gives a *résumé* of all the cases of cerebral hemorrhage contained in the works of Morgagni, Cheyne, Portal, Abercrombie, Bright, Andral, Copeman, and in the Pathological Transactions, he goes on to show how imperfect have been the views held on this subject, and quotes numerous authors who, in his opinion, have failed to state with precision the conditions necessary to cerebral hemorrhage.

From the statistics of the Registrar-General he shows how rare is apoplexy under forty-five, leading to the inference that cardiac disease, which is common before this period, is not sufficient to determine extravasation till the vessels become atheromatous. Then follows an account of the condition of the kidneys in eight aged persons whose bodies Dr. Mushet opened, and who had not died of apoplexy—the object being to show that the renal changes found in his eight apoplectics were greater than those usually met with at their age. A chapter on the diagnosis of cerebral hemorrhage follows, and then two on its treatment and prophylaxis, in both of which there is the same continual reference to the views of ancient and modern authors which we noticed in the first chapter. In his second essay the author maintains that, under the term of nervous apoplexy, have been grouped numerous diseases, the true nature of which greater accuracy in investigation would have revealed; that congestion of the brain takes place, and that in consequence pressure is exerted on its structure, he considers assumptions of which there is little proof. Serous apoplexy he considers in much the same light; in fact, these three—nervous apoplexy, vascular congestion, and serous effusion are, according to him, “the refuge of ignorance, and made available when the cause of death appears otherwise inexplicable.” In this conclusion most well-informed physicians would, we think, agree with him; for, unfortunately, there can be little doubt that *post-mortem* examinations, whether in the interests of science or of justice, are often made in a very unsatisfactory manner; and congestion of the brain, or effusion into the ventricles, supposed to be present and to account for death, when in reality the fatal lesion is elsewhere; and an observer familiar with *post-mortem* appearances would pronounce the structures within the cranium normal. Such is a summary of Dr. Mushet’s work. It is furnished neither with table of contents nor index; this is very unfair to those who may wish to consult it, and the omission has been, in our opinion, very unfortunate for the author. Had he read his essays carefully over, with the view of framing a table of contents, he would, we think, have seen that many of his ideas are conveyed in language which is anything but precise and distinct, and that his argument is not so arranged as to make it by any means easy to follow its thread. The number and character of his quotations show that he must have brought scholarship to the test, and bestowed a vast amount of labour on the literature of the subject, but we cannot help thinking that much of it was

labour thrown away. The co-existence of atheromatous change in the cerebral vessels with damaged kidneys and hypertrophy of the left ventricle, whether the lesions are but manifestations of a common vice, or one of them primary and the other two consequential, is a most interesting subject; but for its elucidation observations require to be made in a direction which had not been thought of when many of the cases he has so laboriously collected were recorded. The directions as to treatment are vague, and some of them, we think, unsound, as when he speaks of bleeding being “warrantable and serviceable when the coma is very profound” in aged persons with albuminous urine.

We recommend to the perusal of our readers the two papers by Dr. Wilks, which are contained in the last number of Guy’s Hospital Reports. The second is a short one; but, nevertheless, contains some interesting observations on functional diseases of the nervous system. The first, however, is, in our opinion, a most valuable communication, worthy of the author’s reputation as a pathologist; it is a record of facts which have been carefully observed, and are now arranged in such a manner as to give a connected and orderly view of cerebral lesions, at least as far as regards their site, and, to some extent, as regards their nature. Many of the conclusions to which Dr. Wilks’ observations lead have already been pretty generally accepted by the profession, but he has verified them by independent research, and the paper forms a clear and admirable exposition of our knowledge as to the connexion between the phenomena of cerebral diseases and the part of the brain affected; for, as Dr. Wilks shows, it is rather the situation than the nature of the lesion which determines the symptoms; an extravasation or a softening will cause similar symptoms if they occupy a similar position. The author gives first a summary of the functions of the cerebro-spinal axis; he then takes up disease of the central ganglia, and shows how by it is produced hemiplegia, as the condition is usually called, though, strictly speaking, there is not a paralysis of half the body, inasmuch as the muscles of the head and chest remain under the control of the will, or, at most, present only a transient paralysis, due, in all probability, to some inhibitory action; the explanation of this fact—the exemption of the muscles of expression, deglutition, and respiration from the paralysis—is found in their possessing centres of power independent of the central ganglia. His observa-

tions on loss of speech in right hemiplegia possess much interest. He says:—

“With regard to the loss of speech in right hemiplegia, I need scarcely say that my observations accord entirely with those of Dr. Hughlings Jackson, although the true explanation of this remarkable circumstance has yet to be discovered. It cannot be believed that the organ of speech is originally situated on one side of the brain only, and thus the explanation must be sought in some secondary cause. My colleague Dr. Moxon has offered a very good theory, which probably has much truth in it; it is to the effect that of the two halves of which the body is made up, one is more especially educated, and that the other follows the movement by consent. This phenomenon, which appears so remarkable, is probably merely one instance of a general law of our bodies which has been hitherto overlooked; so far from being exceptional, I believe it to be only one example amongst numerous others, which shows how partial is the education of our muscles. In the case of writing the fact is so evident that we have never thought of its importance in reference to the physiology of the brain; as most persons write with their right hand, a hemiplegia on this side deprives them of the power to write, whereas a similar affection of the left side has no such effect. Now, when we consider that the mechanism by which writing is performed is entirely the product of education, and that the various movements are guided by nerves which are themselves under the influence of the brain, it becomes evident that one side of the brain only obtains the guiding power. Hence, were it possible for the halves of the brain to be changed over, so that the limb should retain its activity, the power to write would, I take it, still be wanting. It might, of course, be acquired, and thus our hemiplegic patients again learn to talk as they did in infancy. It is probable that for those operations in which we can use both sides of the body equally both sides of the brain have been educated alike; but since in many acts one side rather than the other has been put into use, it has followed that one half of the brain has been specially educated. As regards the movements of the limbs, this is self-evident, but it now seems to be equally true of the power of speech, and it may be true, likewise, of many other operations, as, for example, musical performances. So, again, with reference to the eye; I have heard of a man who was in the habit of using a theodolite with the right eye, and who could not employ the left for this purpose, although the sight was equally good.

“There seem to be different degrees of loss of speech. Thus, in some cases there is a mere inability to articulate, whilst the patient is able to write; in others a loss of memory of words until they are suggested; and in yet others a total forgetfulness of names, the patient giving everything a wrong appellation. It would be important to know

whether these different symptoms are associated with distinct lesions; at present it is thought that loss of speech is associated especially with some disease in that part of the brain known as the island of Reil; and yet, at the same time, it is said that the loss of speech is nearly always connected with a hemiplegia. It follows, therefore, that, unless disease in the spot just named is sufficient to produce a hemiplegia, there must be an affection of the centres, extending towards the external parts.

“In all the cases which I have myself seen, and, if I remember rightly, in those which have been recorded by others, there has been disease in the central ganglia, and I take it that this is necessary for the production of a hemiplegia. But the question remains, is it necessary that disease should advance beyond these parts in order to cause the loss of speech? According to the theory of the education of the one side to the disparagement of the other, a simple loss of power is all that would be required to produce this symptom; and if, as a matter of fact, loss of speech accompanies all right hemiplegia, then, assuredly, a small spot of disease in the central ganglia is sufficient. It may, indeed, be thought that a further extension of the mischief outwards to the grey matter of the hemispheres (especially in the region of the island of Reil) is essential to the further loss of all memory of words; and, on that supposition, we should be on the watch for cases in which this part is injured independently of the centres, and in which loss of speech would, perhaps, exist without any corresponding hemiplegia. Cases of loss of speech certainly occur without a paralysis of the limb, but I am not aware that they have been shown to be due to disease in the island of Reil. I have on more than one occasion seen loss of speech with right hemiplegia, where the lesion was confined to the centres, but in these cases I believe that the failure of speech proceeded no further than an inability to articulate. Aphonia may also occur from disease in the pons Varolii, and I have thought that, by noting accurately this symptom in cases of disease lower down in the motor tract, we might obtain a proof of the importance of the anterior lobe in the production of speech. For example, a lady had disease in the pons Varolii; her tongue and soft palate were paralysed, so that she could not utter a word, but she could write down accurately all her wants. On the other hand, I am now seeing a patient who has somewhat similar symptoms, denoting a disease of the pons, and who has loss of speech; but before this was complete, and when she spoke intelligibly enough to make herself understood by her husband, she called things by their wrong names. The cause was clearly not in the brain proper, for the temporary paralysis which she at first had was on the left side.

“If we believe that, for the production of a persistent hemiplegia, some part of the motor tract must be involved—if we find that in nearly all these cases of loss of speech with paralysis of the right side one of

the central ganglia is affected—and if we also adopt the theory that this peculiarity is due to the education of one side alone—these facts would imply simply that the muscles of the tongue and palate had never learned to act in a certain definite manner; but whether the memory of words being independent of the mechanism by which they are formed, requires another locality for its action, is very doubtful. This anatomical and physiological question merges into the old metaphysical one as to how far the idea must correspond with the outward sign. I apprehend that, according to Dr. Jackson's supposition, a disease of the left corpus striatum would necessitate a loss of the power of articulation, and, if it also involved the neighbouring cineritious structure, would likewise destroy the faculty of speech; while if the latter were the only function affected it would be surmised that the surface about the island of Reil was alone affected."

From symptoms Dr. Wilks believes it is not possible to say in which of the central ganglia, whether in the corpus striatum or in the optic thalamus the disease is situated. Not only, however, may disease, either in the one or the other, cause paralysis, but if, from its nature, it cause rather irritation than destruction of their tissue, hyperesthesia, or convulsion, may be produced; while, if it be of the character of a chronic atrophy, wasting and rigidity of the opposite arm and leg will follow.

He then proceeds to the *pons Varolii*:—

"*Cases of Disease of the pons Varolii.*—As regards this part of the brain, since the motor-sensory tract passes through it, a disease of one side of the pons Varolii must produce a hemiplegia, and a disease of its centre a total paralysis. I believe I have noticed that when disease has originated in this part there has been more impairment of the sense of feeling than in the form of hemiplegia already spoken of. If this be so it may be due simply to the greater concentration of the sensory fibres in this region. In disease of the pons there is not necessarily any loss of consciousness. Since numerous nerves arise from this part, the implication of these often affords evidence as to the part of the sensori-motor tract affected. In ordinary hemiplegia we have seen that there is merely a temporary inhibitory movement on the facial nerve centre; but in actual disease of the pons the nerve root may be involved, and thus, with the hemiplegia, there may be a decided facial paralysis on the same side. In such a case, according to Brown-Séquard, the upper part of the pons is affected. In other instances, however, paralysis of the face occurs on the side opposite to that of the limb, and he says that we may then infer that the lower part of the pons is the seat of disease; for it is believed

that the fibres of the seventh nerve decussate in the pons, and that in the cases last supposed the centre of the nerve of the same side would escape, but the disease would involve the fibres of the nerve of the opposite side. I cannot, from actual observation, say that the lesion has been higher in the one case than the other, but it is evident that it must have differed in position in the two cases. I should, however, say that for many years past we have, at Guy's Hospital, been in the habit of referring hemiplegia in which there is marked facial paralysis to lesions of the pons Varolii."

But hemiplegia, Dr. Wilks now believes, may be produced not only by disease of the centres but by disease of the surface of the brain, by a unilateral arachnitis, or by the disintegration of the grey matter of one hemisphere; when so produced it will be accompanied by those phenomena which characterize lesions of the cineritious surface of the brain; such cases almost invariably originate in injury, and formerly the author was in the habit of attributing the paralysis to extension of the disease to the central parts; but some cases published in the *Medical Times and Gazette* by Mr. Jonathan Hutchinson have convinced him this was not necessary for the production of hemiplegia. He then alludes to this symptom following injury of the head as an immediate result of the effusion of blood on the surface. So far as his experience goes, "a partial hemiplegia occurring soon after an injury always points to a clot on the opposite side;" but some days or weeks after an injury it may come on, and practically it is of the utmost importance to distinguish the two cases; in the first there is a clot of blood, which may be removed after the trephine has been applied; in the second the paralysis, according to Dr. Wilks' experience, is due to arachnitis or to disease of central parts, and operative interference useless; hemiplegia, coming on after some days, might indeed arise from secondary hemorrhage, but this is an occurrence so exceptional as hardly to be calculated on.

The author's observations on disease of the cineritious substance of the brain are also of much interest; intellectual disturbance and convulsion are, as is well known, the characteristic signs produced by acute changes in it; but other phenomena may arise, and their mode of development is considered at length. Chronic diseases of the grey matter appears generally to end in its atrophy, or if not in its positive shrinking, at least in the substitution for true nervous matter of a tissue which no longer serves the purpose which it should, differing in their causation—sometimes due to injury, sometimes to the long continued operation of mental worry, some-

times to old age or to excesses—differing, no doubt, also in their early stages as to their intimate nature, these chronic lesions seem almost invariably to end in wasting, and to have as their characteristic symptom a gradual failure of mental and bodily power. The author's observations on the general paralysis of the insane will well repay careful perusal by all who have to deal with that malady. He agrees with Dr. Sankey that it differs essentially from the other forms of insanity. He says:—

“There are, however, many reasons for drawing a line between this and other mental affections. Thus, it sometimes arises from a definite cause, such as an injury, in a person not predisposed to insanity; it runs a certain course of not many years' duration, and it may attack a brain previously sound. On the other hand, purely mental diseases are generally dynamic or functional; they depend upon some natural and inherent failing, and they show themselves by peculiarities of manner, habits, and feelings. We therefore must not infer, from the supposed analogy between general paralysis and the various forms of insanity, that they also arise from a structural alteration similar to that which exists in this disease.”

Several instructive pages are devoted to the consideration of epilepsy. Fits, having nearly all the character of epilepsy, have, in Dr. Wilks' experience, been almost invariably associated with disease of the surface of the brain. Such cases differ from those which are usually regarded as genuine epilepsy, in the loss of consciousness not being complete, in the convulsions succeeding one another rapidly, and in being accompanied not merely by a transient but by a permanent hemiplegic condition. They are found to be due to disease of the surface of one hemisphere. The seat of genuine epilepsy, then, the author infers to be the surface of the brain; in it, however, the grey matter of both hemispheres is probably affected. In connexion with this he claims, and no doubt with justice, the merit of bringing before the profession the efficacy of the bromide of potassium as a remedy against this intractable malady.

Dr. Wilks, in his second paper, makes some excellent reflections on hysteria and on that form of hypochondriasis which is associated with a morbid affection to the sexual organs.

The Physiology of Man. By AUSTIN FLINT, Junior, M.D.; Professor of Physiology and Microscopy in the Bellevue Hospital, Medical College, New York, and in the Long Island College Hospital; Fellow of the New York Academy of Medicine; Microscopist to Bellevue Hospital. New York: D. Appleton and Company, 443-445, Broadway. 1866.

THE author of this work before us is not unknown to the profession as a physician who already has contributed much to the advancement of physiological science. In the transactions of the American Medical Association of 1858, we find a prize essay by Dr. Flint on the heart's sounds in health and disease; and in the *American Journal of Medical Science* of October, 1861, a paper on the "Action of the Heart and Respiration." Were it for no other reason, the present volume could not fail to be received with interest; but since the object of this work is to represent the existing state of physiological science as applied to the functions of the human body, it carries with it a weight of importance and interest only equalled by the subject of which it treats.

The method of publication, though new in our sister country, is the usual way in which works of an extensive character are issued in ours, and on the Continent. The present volume is the first of a series of four, which will be brought out annually, and be severally complete in themselves. Judging from the able manner in which this volume is written, the series, when perfected, will be one of those publications without which no library is complete. As a book of general information, it will be found useful to the practitioner, and as a book of reference invaluable in the hands of the anatomist and physiologist. An extensive and accurate index is added, which much enhances its value. One fear only have we, which, we trust, has no other foundation than in our imagination, and that is, that there may be some delay in producing the annual volume. In our own country, how often have we to deplore the irregularity of similar publications.

As the book before us embraces the physiology of the Blood, the Circulation, and Respiration, each in itself a subject of such magnitude, it is not our intention to give anything like a synopsis of it, or to cull the only remarkable facts we can find, but rather to touch upon a few passages, out of many, which have caught our attention while perusing it.

It commences with an introduction devoted to physiological chemistry, particularly laying stress upon the general properties and relations of the different classes of proximate principles, as being the most important to physiologists. In the division of proximate principles Dr. Flint follows, with slight modification, the classification of Robin and Verdeil. First, substances which enter into the normal constitution of the organized tissues, and those constituents of the fluids which are used in nutrition. Second, substances which are the result of the wearing out of the tissues, and are not used in nutrition.

The last division is composed of excrementitious matters, the consideration of which, being connected exclusively with excretions, is deferred to be taken up in connexion with that subject.

One question only, in this part of the book, we shall call attention to, on which stress is laid by the author—namely, “the question of the organization of accidentally-effused and coagulated fibrin,” as the process of the repair of parts is one of importance in pathology and of great physiological interest. The opinion, held by many pathologists, that it is capable of becoming part of the organized living structure, has its origin in an assumed identity between fibrin and reparative lymph. This opinion Dr. Flint controverts, and shows that there is nothing in such effusions, to lead us to suppose them capable of self-regeneration—that distinctive property of all organized tissues:—

“The changes which these effusions undergo are retrograde in their character; and the fibrin, if it be not absorbed, remains as a foreign substance. The fibrillation which takes place is by no means an evidence of even commencing organization; for in effusions into the tissues it soon disappears, and if the effusion be not too large, the mass breaks down and is finally absorbed. When, on the other hand, effusion of organizable lymph takes place, the process is very different. It is elaborated, indeed, rather than effused; first appearing as a homogeneous fluid, in which fibro-plastic nuclei, then fibres, are developed, and in some instances blood-vessels, lymphatics, and nerves. According to Robin, plastic lymph does not even contain fibrin; much less are the two identical. The process of organization is slow and gradual, and in no case does it take place from the blood, or elements of the blood, suddenly or accidentally effused.

“There can be no doubt that effused and coagulated fibrin is incapable of organization; and it may be further stated, as a general law, that *no single proximate principle, nor mere mechanical mixture of proximate principles,*

effused into any part of the body, ever acts in any other way than as a foreign substance."

The first subject considered in the body of the book is physiology of the Blood. Most of the principal authorities are quoted; and at p. 134 we find a method of quantitative analysis of the constituents of the blood given us by the author. It has the great advantages of simplicity and facility of application, and is sufficiently accurate for all practical purposes. As every new addition to science is a key to help us in unravelling the mysteries of nature, we subjoin it gladly:—

"The blood to be analysed is taken from the arm, and received into two carefully-weighed vessels. The quantity in each vessel may be from two to four ounces. One of the specimens is immediately whipped with a small bundle of broom-corn, previously moistened and weighed, so as to collect the fibrin; and after the fibrin is completely coagulated, the whole is carefully weighed, deducting the weights of the vessel and and broom-corn, which gives the weight of the specimen of blood used. The other specimen is set aside to coagulate.

"The first specimen is used in the estimation of the fibrin and corpuscles; the second is set aside to coagulate, and is used to estimate the albumen. It is important to cover the vessels as soon as the blood is drawn, for, as has been demonstrated by Becquerel and Rodier, blood exposed to the air loses weight rapidly by evaporation.

"We now pass the first specimen of blood through a fine sieve to collect any fibrin that may not have become attached to the wisp, strip the fibrin from the wisp, and wash it under a stream of water. This may be done very rapidly if we cause the water to flow through a small strainer, by which it is broken up into a number of little streams, and knead the fibrin with the fingers, doing this over a sieve so as to catch any particles that may become detached. In this way it may be freed from the corpuscles in five or ten minutes. The fibrin is then freed from most of the adherent moisture by bibulous paper, and weighed as soon as possible. By the following formula we estimate the proportion per 1,000 parts of blood:

"Weight of blood used : Weight of fibrin :: 1,000 : Fibrin per 1,000.

"The next step is to estimate the corpuscles. For this purpose a portion of the defibrinated blood, which is carefully weighed, is mixed with twice its volume of a saturated solution of sulphate of soda, and thrown upon a filter which has been carefully weighed and moistened with distilled water, and also, just before receiving the mixture of blood and sulphate of soda, with the saline solution. The fluid which passes through should be about the colour of the serum; if a few corpuscles

pass at first, the liquid should be poured back until it becomes clear. The funnel is then covered, and the fluid allowed to separate, the blood-corpuscles being retained on the filter. The filter and funnel are then plunged several times into a vessel of boiling water, by which all the sulphate of soda which remains is washed out, and the corpuscles are coagulated without changing in weight. The funnel should be again covered and the water allowed to drip from the filter, after which it is weighed, deducting the weight of the moist filter previously obtained, which gives us the weight of the corpuscles. We obtain the proportion of corpuscles to 1,000 parts of blood by the following formula :

“Defibrinated blood used : Corpuscles :: Defibrinated blood per 1,000 : Corpuscles per 1,000.

“The next step is to estimate the quantity of albumen in the serum, and thence its proportion in the blood. For this purpose we first ascertain the quantity of serum in 1,000 parts of blood, which is done by subtracting the sum of the fibrin and corpuscles per 1,000 from 1,000. Having done this, and waited ten or twelve hours for specimen No. 2 to separate completely into clot and serum, we take a small quantity of the serum, about half an ounce, weigh it carefully, and add suddenly twice its volume of absolute alcohol. The albumen will be thrown down in a grumous mass, and the whole is thrown upon a filter, which has been previously moistened with alcohol and weighed. The funnel is immediately covered, and the fluid separates from the albumen very rapidly. We ascertain that no fluid albumen passes through the filter by testing the fluid with nitric acid. After the filter has ceased to drip it is weighed, and the weight of the albumen ascertained by deducting the weight of the filter. The proportion of albumen to 1,000 parts of blood is obtained by the following formula :

“Serum used : Albumen :: Serum per 1,000 : Albumen per 1,000.”

In the chapter on the circulation of the blood we find all the latest experiments, and conclusions deducted from them. As first among which ranks those of Mons. Marey. The subject of the succession of the movements of the heart, and the relative time occupied by the auricular and ventricular contractions, has for a long time occupied the attention of physiologists, and great care was applied to its study by M.M. Chauveau and Faivre, by auscultating the heart exposed in the living animal; but their conclusions could only be an approximation. The question has been, however, at last settled by the late observations of Marey, who has constructed some very ingenious instruments for registering the form and frequency of the pulse.

For a description of this apparatus we would refer the reader to

the book. We subjoin the conclusions arrived at by M. Marey. Dividing the action of the heart into ten equal parts, we have three distinct periods, which occur in the following order.

Auricular Systole.—This occupies two-tenths of the heart's action. It is feeble compared with the ventricular systole, and relaxation immediately follows the contraction.

Ventricular Systole.—This occupies four-tenths of the heart's action. The contraction is powerful, and the relaxation sudden. It is absolutely synchronous with the impulse of the heart.

Diastole.—This occupies four-tenths of the heart's action.

When speaking of the valves of the heart, and especially in connexion with the safety-valve function of the right ventricle, Dr. Flint mentions an anatomical fact worth noticing. He has demonstrated within the last year that the semilunar valves guarding the orifice of the pulmonary artery, allow, under pressure, a certain amount of regurgitation, while a very much greater force is required to cause any insufficiency in the aortic valves. To this fact Dr. Flint is more inclined to attribute the immunity of the lungs, than to the safety-valve function of the right ventricle, so well known as that connected with the name of Mr. King.

The sphygmograph, now becoming so well known to the profession, through the medium of the public papers, and by its use in our larger hospitals, is fully described at p. 255, in connexion with the form of the pulse. Vierordt was the first physiologist to describe such an instrument. He also gave it its name. To Marey, however, belongs the honour of bringing it to such perfection as it has now attained, and of laying before the profession the important practical results it has led him to.

The instrument in Marey's hand, applied to the radial artery, gives a trace very different from that obtained by Vierordt, which was simply a series of regular elevations and depressions.

"Analysing the traces of Marey, we see that there is a dilatation following the systole of the heart, marked by an elevation of the lever, more or less sudden, as indicated by the angle of the trace, and of greater or less amplitude. The dilatation having arrived at its maximum, is followed by contraction; which may be slow and regular, or may be, and generally is, interrupted by a second and slighter upward movement of the lever. This second impulse varies very much in amplitude. In some rare instances it is nearly as marked as the first, and may be appreciated by the finger, giving the sensation of a double pulse following each contraction of the heart. This is called the *dicrotic pulse*.

“As a rule, the first dilatation of the vessel is sudden, and indicated by an almost vertical line; this is followed by a slow reaction, indicated by a gradual descent of the trace, which is not, however, absolutely regular, but marked by a slight elevation indicating a second impulse.

“The amplitude of the trace, or the distance between the highest and lowest points marked by the lever, depends upon the amount of constant tension of the vessels. Marey has found that the amplitude is in an inverse ratio to the tension; which is very easily understood, for when the arteries are little distended, the force of the heart must be more marked in its effects than when the pressure of blood in them is very great. Any circumstance which facilitates the flow of blood from the arteries into the capillaries, will, of course, relieve the tension of the arterial system, lessen the obstacle to the force of the heart, and increase the amplitude of the pulsation; and *vice versâ*. In support of this view, Marey has found that cold applied to the surface of the body, contracting, as it does, the smallest arteries, increases the arterial tension, and diminishes the amplitude of the pulsation; while a moderate elevation of temperature produces an opposite effect.

“In nearly all the traces given by Marey, the descent of the lever indicates more or less *oscillation* of the mass of the blood. The physical properties of the larger arteries render this inevitable. As they yield to the distending influence of the heart, reaction occurs after this force is taken off, and, if the distention be very great, gives a second impulse to the blood. This is quite marked, unless the tension of the arterial system be so great as to offer too much resistance. One of the most favourable conditions for the manifestation of dicrotism is diminished tension, which is always found co-existing with a very marked exhibition of this phenomenon.”

This oscillation of the blood in the vessels has been further confirmed by the experiments of Chauveau, with his instrument, which he constructed for estimating the rapidity of the current of the blood in the arteries. He experimented on the carotids of a horse, and found that three currents, with different degrees of rapidity, may be distinguished.

“These experiments give us, for the first time, correct notions of the rapidity and variations of the flow of blood in the larger vessels; and it is seen that they correspond in a remarkable degree with the experiments of Marey on the form of the pulse. Marey showed that there is a marked oscillation of the blood in the vessels, due to a reaction of their elastic walls, following the first violent distention of the heart; that at the time of closure of the semilunar valves, the arteries experience a second, or dicrotic, distention, much less than the first; and following this, there is

a gradual decline in the distention until the minimum is reached. Chauveau shows by experiments with his instrument, that corresponding to the first dilatation of the vessel, the blood moves with immense rapidity; following this, the current suddenly becomes nearly arrested; this is followed by a second acceleration of the current, less than the first; and following this we have a gradual decline in the rapidity to the time of the next pulsation."

Having always been accustomed to recognize the existence of *capillary force* as one of the greatest forces of the circulation, and taught that the circulation of the blood in the *area vasculosa*, previous to the formation of the heart of the fetus, in the blood vessels of acardiac fetuses, and, normally, through the lungs, were all examples of a capillary circulation, dependent upon a vital nutritive attraction between the tissues and the blood,—we were startled to see these views and their soundness questioned by Dr. Flint. He bases his opinions on the following facts. Under the microscope, with each ventricular systole a distinct impulse is seen in the smallest arteries, and there is not, he assumes, the slightest ground for supposing that this flow is not propagated to the capillary system of vessels, but, on the contrary, the action of these little arteries, or arterioles, is fully competent to produce all the variations which are observed in the circulation of that system. The experiments of Sharpey (quoted from Todd and Bowman) have further shown that, after death, the blood can be forced through the capillary system, and returned by the veins, by a force less than that exerted by the heart; and the celebrated experiments of Bichat have demonstrated the passage of black blood through the lungs in asphyxia, and its presence in the arterial system. Dr. Flint, therefore, concludes, that there are no forces of any moment, which are superadded to the action of the right ventricle, in the production of the arterial, capillary, or venous circulation, generally throughout the body, or particularly through the lungs.

In the manner in which Dr. Flint handles those cases of monsters whose blood circulated without a heart, the most remarkable of which was reported by Dr. Houston, in this Journal, we think he is too superficial and hasty. "As he cannot regard as facts these grounds on which some have based their belief in the existence of a force in the circulation, which is independent of the heart's action, he abstains from their discussion," and merely makes notice of them in a foot note.

One other matter connected with the circulation, which explains

many points of equal interest to the pathologist and physiologist, and we have done. It is the relation of the rapidity of the current of the blood to the frequency of the heart's action. The proposition that any increase in the number of pulsations of the heart produces a corresponding acceleration of the general current of the blood, cannot be taken for granted. Dr. Flint observes that it may be enunciated as a general rule "that when acts of the heart increase in frequency they diminish in force." Hering has settled the question experimentally. He made his observations on horses by increasing the frequency of the pulse, on one hand, physiologically, by exercise, and on the other hand, pathologically, by inducing inflammation. If we are justified in applying Hering's observations to the human subject, it is shown that when the pulse is accelerated in disease, the value of the contractions of the heart, as represented by the quantity of the blood discharged, bears an inverse ratio to their number, and is so much diminished as, absolutely, to produce a current of less rapidity than normal.

The following conclusions may be given as the result of experimental inquiry:—

"1. *In physiological increase in the number of beats of the heart, as the result of exercise, for example, the general circulation is somewhat increased in rapidity, though not in proportion to the increase in the pulse.*

"2. *In pathological increase of the heart's action, as in febrile movement, the rapidity of the general circulation is generally diminished, it may be, to a very great extent.*

"3. *Whenever the number of beats of the heart is considerably increased from any cause, the quantity of blood discharged at each ventricular systole is very much diminished, either from lack of complete distention, or from imperfect emptying of the cavities."*

We shall be glad to receive the remaining volumes of this work, and if they equal the one we have before us, they will form a very valuable contribution to our literature.

On Inhalation, as a Means of Local Treatment of the Organs of Respiration by Atomized Fluids and Gases. By HERMANN BEIGEL, M.D., &c., Assistant-Physician to the Metropolitan Free Hospital. 8vo. London: Hardwicke. 1866.

THIS book is intended to supply what is confessedly a want in the profession, and it has the additional recommendation of aiming at

a scientific manner of doing what some, both qualified and unqualified, quacks profess great proficiency at in our day.

Dr. Beigel, whose position is sufficient security for his respectability, did we require any such, prefaces his volume by remarking, with reference to therapeutics, that medicines which are said to act on the blood, act on more organs than we want them to act on in a given case. He asks, "Who knows how any medicament, internally taken, acts on the blood?" And having made some observations in that style, he further observes:—"In order to lessen the number of links in the chain of action, the treatment of our day endeavours to become *local* wherever it is feasible. Two excellent results have recently been obtained in this direction—the one is the '*hypodermic injection*,' by Alexander Wood, in Edinburgh; and the other, the '*inhalation of atomized fluids*,' by Sales-Girons." Dr. Beigel does not, however, consider inhalations a panacea for chest disease; his treatise is intended to enable such of our brethren as have had no opportunity of making themselves acquainted with Sales-Girons' invention, "to apply it in appropriate cases, and to form an opinion of their own."

The work before us consists of two parts, and runs over 200 pp. 8vo. Part I. comprises nine chapters, while Part II. contains three (*viz.*, x., xi., and xii.) and a "Conclusion." Scattered over these 200 pages are several illustrative woodcuts, some of which, by the kindness of the publisher, we are enabled to reprint from the blocks sent to us for that purpose. Chapter II. of Part I. discusses a primary and important question in this matter—*viz.*, as to whether the atomized fluids really enter the minute air-passages, gives the history of the controversy, and, supported by the weighty authority of Trousseau, concludes:—"It is therefore confirmed beyond doubt that atomized fluids enter the respiratory tract and penetrate into the very cells of the lungs; that, therefore, by means of inhalation, remedies most appropriately and successfully may be applied to the organs of respiration."

In 1858, Sales-Girons constructed his "Pulvérisateur portatif des liquides médicamenteux." It is described and figured in Chapter III. One of the most modern apparatus is that recently manufactured by Windler, of Berlin. Dr. Beigel considers it to be the best amongst those acting by pressure, for it produces great quantities of an extremely minute cloud; but yet he does not consider it to be free from the inconveniences which adhere to all apparatus acting by means of pressure. We give the figure (Fig.

3) of it from p. 30; but as Dr. Beigel has not subjoined any explanation of the letters on the figure, we omit any reference to them:—

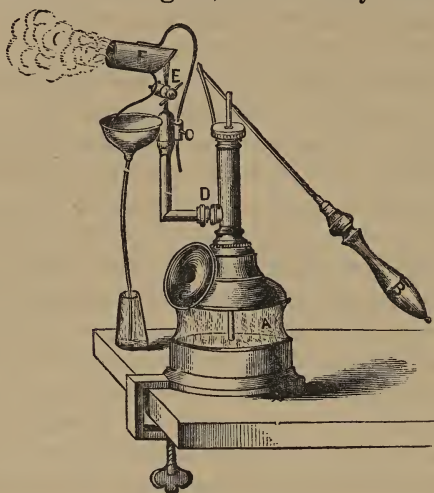


Fig. 3.

By the same maker, apparently, is another atomizer, which Dr. Beigel recommends as distinguished by great simplicity, and by the readiness with which it can be handled. It is illustrated in the following woodcut (Fig. 6), and its mode of action is thus explained:—The air is compressed in a large brass ball by means of a pump; from this brass ball a tube projects, ending in a fine

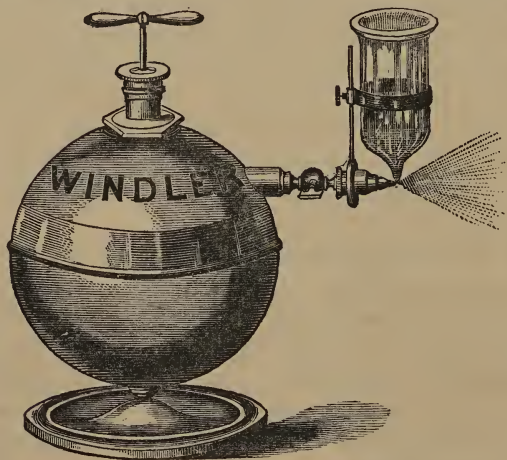


Fig. 6.

opening. The fluid to be atomized is put into a glass vessel, which is placed above that opening. The bottom of the vessel is prolonged tubelike, and likewise contains a very minute opening. As soon as the fluid is poured into the vessel it begins to ooze from that hole, and is formed into a very fine mist, when the stopcock is opened, and a blast of compressed air rushes forth.

Dr. Siegle, of Stuttgart, has, it seems, given the greatest perfection to the inhalation apparatus. He placed the patient in a position to inhale without using his hands or requiring an assistant. In this case steam is the acting power. In Fig. 7 we have this apparatus in conjunction with a screen invented by Dr. Beigel to ward off the effects of acrid or caustic medicaments from other parts of the patient than those intended to be acted on.

The apparatus consists of a boiler, under which is placed a spirit lamp, provided with a thermometer, the lower end of which hangs in the boiler, while the other is free, containing a graduated scale. When the mercury rises to the figure 2 it indicates the temperature and pressure of the steam most suitable for pulverization; the tube descends into the boiler, carrying off the steam therefrom when it is generated by means of the lighted spirit lamp, and having the same effect upon the capillary opening of the other tube, which dips into the vessel with the fluid to be atomized, as the blast of compressed air has—*viz.*, the fluid rises, escapes through the capillary opening, and is turned into an extremely finely attenuated spray, while the patient sits quietly, and inhales comfortably.

Dr. Beigel's screen is seen between the apparatus and the inhaler in Fig. 7.



Fig. 7.

Messrs. Krohne and Seseman, of 241, Whitechapel-road, London, at Dr. Beigel's request, manufactured a low-priced atomizer, price 12s. 6d., or, with the screen, one guinea. It needs no explanation, and is illustrated by Fig. 9:—

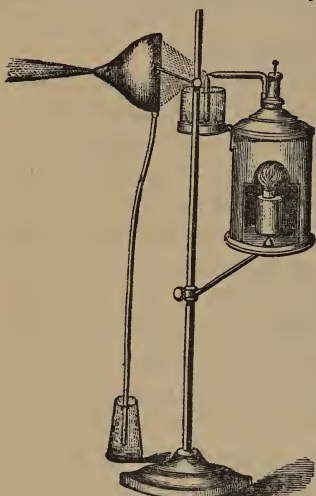


Fig. 9.

Dr. Beigel also recommends his "Traveller's Atomizer" for patients whose business obliges them to travel. It is also manufactured by Messrs. Krohne and Seseman. The whole apparatus, as figured at quarter its actual size in Fig. 10, represents a metal tube, $4\frac{3}{4}$ inches in length and $1\frac{3}{4}$ inches in diameter. The upper part of the tube is occupied by the boiler, which is also provided with a valve, the lower by the spirit lamp. The space between the lamp and the boiler contains, when the apparatus is not acting, the vessel for the fluid to be atomized. The whole is packed in

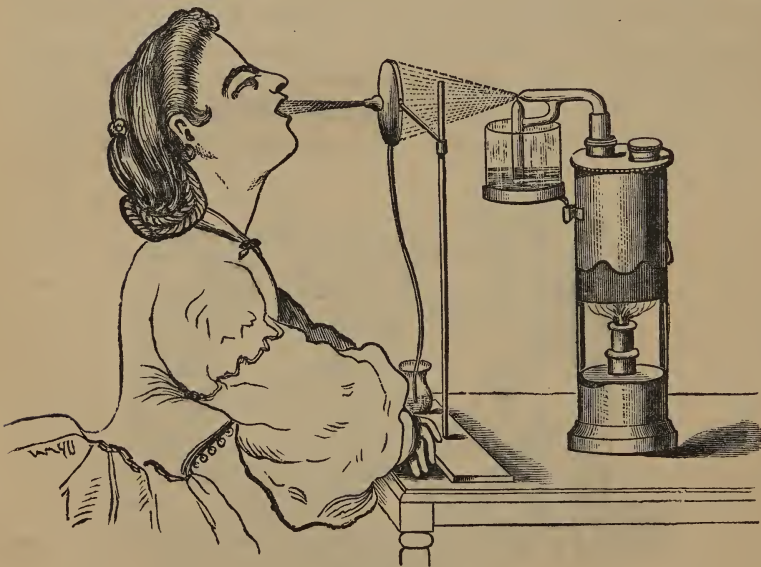


Fig. 10.

a box, 7 inches long, $2\frac{1}{2}$ inches broad, and 2 inches high. The

capacity of the boiler is $1\frac{1}{2}$ oz. of water, but for action is filled, only to six or seven drachms, which in about two minutes begin to be turned into vapour, by which one ounce of the fluid is atomized in thirteen minutes.

In Chap. IV. Dr. Beigel observes that he makes patients generally begin by taking one hundred inhalations, making a pause of a few seconds after every ten or fifteen deep inspirations, and he afterwards increases the number according to the indications of each particular case.

In Chap. V. he concludes that the strength of the medicated fluid is but very slightly altered by its mixture with steam, and that about half of the mixture of steam and medicated spray passes the glottis, and penetrates into the respiratory tract.

The medicaments which can be atomized and which have been in that condition found to be beneficial in diseases of the respiratory organs are, according to Dr. Beigel (Chap. VI., Part I.):—*Nitrate of silver*, dose three to five grains in an ounce of distilled water, serviceable in inflammatory conditions of the pharynx and larynx; *nitrate of aluminium*, two to five grains in an ounce of water, first used by Dr. Beigel for inflammation, and also in nervous affections of the larynx and trachea; *tannin* astringent and styptic, dose one to ten grains in an ounce of water; *alum*, one to twenty grains as above; *sesquichloride of iron*, five to twenty-five minims in an ounce of water; *acetate of lead*, three to ten grains as above; *sulphate of zinc*, one to ten grains; *common salt*, *tincture of opium*, *liquor arsenicalis*, *pure water*, *glycerine*, *lime water*, one part of lime to one hundred of water; and *cod-liver oil*. Dr. Beigel further mentions that the salts of iodine, chlorine, and bromine, as recommended by other authors.

Chapter VII. treats of the immediate effects of the inhalation of atomized fluids; Chapter VIII. discusses plans for securing inhalations in hospitals and dispensaries; and Chapter IX. dwells on inhalation of volatile chemicals, gases, &c. Dr. Beigel maintains the efficacy of inhaling oxygen "if applied to the proper cases." Of course he has his own apparatus for this purpose, and on p. 74 he informs us that "it differs from the inhalers hitherto constructed, not only in shape and finish, forming a fine ornamental vase, but [that it] tends also to remedy some inconveniences connected with other similar apparatus. The patient was hitherto, after each inspiration, obliged either to turn his face from the apparatus, in order to perform the expiration, or to expire into the apparatus,

whereby the oxygen became mixed with the expired air." The following section (Fig. 14) of the mouth-piece of Dr. Beigel's inhaler sufficiently explains its construction:—The two valves (A and B) are made of vulcanite, and acting extremely easily, close

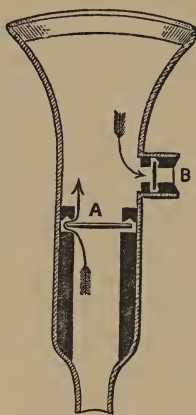


Fig. 14.

and open with great precision. "It is obvious (remarks Dr. Beigel) that the inhalation of the oxygen with each inspiration—during which the valve B gets closed—takes place in the direction of the arrow at A, while during expiration A closes, and the expired air escapes in the direction of the arrow at B."

The second part of Dr. Beigel's work is a treatise on inhalation applied to special diseases, and is, in fact, the practical portion which concerns our profession particularly.

Chapter X. furnishes the reader with a collection of statistics, which are summed up in this sentence:—"From these figures we learn that in England during a period of ten years rather more than the fourth part of the whole population dies, and that in one of four of all deaths, the cause is a disease of the organs of respiration."

Chapters XI. and XII. treat on—

I. Diseases of the Pharynx, Larynx, and Trachea.

1. Laryngeal Hyperæsthesia.
2. Œdema Glottidis.
3. Laryngitis.
4. Croup.
5. Diphtheria.

II. *Diseases of the Bronchi and Lungs.*

6. Bronchitis.
7. Asthma.
8. Emphysema.
9. Hæmoptysis—Spitting of Blood.
10. Phthisis—Consumption.
11. Grangræna Pulmonum.
12. Whooping Cough.

Dr. Beigel's remarks on these subjects are illustrated by lengthened and, in some instances, tedious details of thirty-two cases which fell under his care. His conclusion is to the point, and as it is so we feel no hesitation in inserting it here, as follows:—

“I should not like to conclude these pages without making the following remarks on the cases contained in the second part. They were selected out of a considerable number of which I possess notes, too numerous to be incorporated with this treatise, without making it more voluminous than was intended. With a very few exceptions, the cases are such as have been cured or very much improved by inhalation, and this is just the point at which I am aiming. It was by no means my intention presenting cases only in which the inhalatory treatment has been applied successfully, to show that such results will always be obtained by the administration of atomized fluids. That was not my purpose. Inhalation, not being generally used, or even known, I, being convinced that it deserves a prominent place in the treatment of pectoral disease, was anxious to prove—particularly to those gentlemen who proclaim it to be void of any value—that a cure can be effected by the new method, and, I may add, in a manner which gives, provided the case be apt for inhalations, the preference to that method over all other kinds of treatment. The final aim of every physician is to *cure* the patient, and I do not consider that we are justified in protracting a disease, or allowing a patient to die, without having exhausted every possible therapeutic means; but my intention was to show that inhalation is a source by no means to be neglected in diseases of the organs of respiration. He who expects wonders from that mode of treatment will soon be disappointed: he who recommends it as an infallible one, will prove a false prophet; but an unprejudiced application of the atomizer will lead to the conviction that the invention of Sales-Girons has been a most valuable addition to therapeutics.”

In these last remarks we fully concur, and we strongly advise our brethren to make themselves practically acquainted with the

merits of a system which, *primâ facie*, must appear to all sensible men to have on its side that *probability* whereof our great ethical authority affirmed, that it is "the guide of life." To this end we commend to them Dr. Beigel's book.

1. *A Guide to the Practical Study of Diseases of the Eye: with an Outline of their Medical and Operative Treatment.* By JAMES DIXON, F.R.C.S.; Surgeon to the Royal London Ophthalmic Hospital, Moorfields. Third Edition. London: Churchill and Sons. 1866. Pp. 303.
2. *A Handy-book of Ophthalmic Surgery.* By JOHN Z. LAURENCE, F.R.C.S.; M.B. (Univ., Lond.); Surgeon to the Ophthalmic Hospital, Southwark; Editor of the *Ophthalmic Review*, &c.: and ROBERT C. MOON, House Surgeon to the Ophthalmic Hospital, Southwark. Illustrated. London: Robert Hardwicke. 1866. Pp. 160.
3. *Recent Advances in Ophthalmic Science.* The Boylston Prize Essay for 1865. By HENRY W. WILLIAMS, M.D., &c. Illustrated. Boston: Ticknor and Fields. 1866. Pp. 180.
4. *Tension of the Eyeball, Glaucoma, &c. Some Account of the Operations practised in the Nineteenth Century for their Relief.* By JAMES VOSE SOLOMON, F.R.C.S.; Surgeon to the Birmingham and Midland Eye Hospital, &c. London: Churchill and Sons. 1865. Pp. 80.
5. *Defects of Sight and Hearing: their Nature, Causes, Prevention, and General Management.* By T. WHARTON JONES, F.R.S., F.R.C.S.; Professor of Ophthalmic Medicine and Surgery in University College, London, &c. Second Edition of Defects of Sight. London: Churchill and Sons. 1866. Pp. 168.
6. *On Abscess and Tumours of the Orbit.* Part I. By SPENCER WATSON, F.R.C.S., Eng.; Assistant-Surgeon King's College, and the Central London Ophthalmic Hospitals. Reprinted from the *Medical Mirror*. London: H. K. Lewis. 1866.
7. *Injuries of the Eye, Orbit, and Eyelids; their Immediate and Remote Effects.* By GEORGE LAWSON, F.R.C.S., Eng.; Assistant-

Surgeon to the Royal London Ophthalmic Hospital, Moorfields, and to the Middlesex Hospital; late Assistant-Surgeon Rifle Brigade. London: Longmans, Green, and Co. 1867. 8vo, pp. 400.

8. *Ophthalmiatische Beobachtungen* von Dr. med. ALBERT MOOREN, dirigirendem Arzt der städtischen Augen-Kluick zu Düsseldorf. Berlin: Hirschwald. 1867. 8vo, pp. 342.

Ophthalmological Observations. By Dr. ALBERT MOOREN, Chief Physician to the Civic Eye Hospital at Düsseldorf.

THE above list comprises but a small portion of the works relating to ophthalmic matters which have lately appeared; indeed, few subjects receive such general as well as special attention at present as ophthalmology, and the number of publications on the subject is so great that it can be no easy task, even for those who devote themselves exclusively to the specialty, to keep themselves well informed in its literature. Ophthalmic medicine, which had for a long time remained almost stationary, received a powerful stimulus by the discovery of the ophthalmoscope, and the writings have increased to such an extent that several periodicals, in various languages, are now exclusively devoted to ophthalmic subjects.

Mr. Dixon's book is essentially a practical one, written by an observant author, who brings to his special subject a sound knowledge of general medicine and surgery. The work does not detail the opinions or practice of others, nor is it a systematic treatise, but is simply what its title implies, and being the result of the author's own observation and experience, carries great weight. The diseases and abnormal conditions of the interior of the eye, as revealed by the ophthalmoscope, are treated of rather briefly, as are also the anomalies of refraction and accommodation, and the greater part of the work is devoted to the consideration of those diseases and conditions which we are most commonly called upon to treat.

The prevailing eye disease in this country, and the most frequent cause of blindness, is the well-known granular conjunctivitis, which is epidemic, and also in many places endemic. When it is remembered that the enamel is occasionally worn off artificial eyes by the granular surface of the conjunctiva, we need not be surprised at the effect produced by the rasping of such a surface upon a delicate vital structure like the cornea; this membrane becomes vascular and opaque, presenting what is generally called in this

country pannus. In many of these cases, although all active disease may have subsided in the conjunctiva, and the granulations become cicatrized, and the surface smooth, the cornea still remains vascular and opaque, and causes an almost hopeless blindness. In such cases Mr. Dixon recommends inoculation of the eye with purulent matter, taken from a patient suffering from purulent ophthalmia—a plan of treatment proposed a good many years ago, and one which we can recommend, having ourselves seen the best results follow its adoption; the matter used may also be gonorrheal. This mode of treatment should, however, be restricted to cases where the cornea is entirely vascular, for if any portion be transparent, such part will almost entirely slough. We would also urge the use of compress bandages in the treatment of these and all other cases of purulent ophthalmia.

Another, but yet more terrible, because more hopeless disease, is known by the name of glaucoma, and is fortunately rather rare in this country; the majority of the instances of this malady, as well as the worst which have come under our notice, have been in English persons, or individuals of English or foreign extraction, resident in Ireland. From the following passage it would appear Mr. Dixon is of opinion that there is necessarily in every case a violent inflammatory attack:—"There are two distinct forms of glaucoma; in one the outburst of inflammation is preceded by a long period of premonitory symptoms; in the other the attack comes on with startling suddenness." But we believe there is a class of cases in which this disease progresses silently, gradually, and insidiously, terminating in complete blindness, and in which, no matter how long it may exist, no such outburst of inflammation occurs; indeed we rather hesitate to use the term inflammation at all in connexion with certain forms of chronic glaucoma; the appearances are rather those of atrophy than of inflammation; the evidences of inflammation are very doubtful, and are very unlike those we have been taught to regard as proofs of such a condition. It may no doubt be urged that atrophy is merely a sequence of inflammation, but the inflammatory stage in this disease, if such exists, must be very brief, and is rarely recognized, while the structural changes are at once seen, and may be watched in their progress from week to week. The whole subject of glaucoma possesses such interest that the temptation to discuss it is very great, but space forbids our doing so. Up to the time von Graefe proposed iridectomy as a remedy for glaucoma, the disease was generally held to be incurable.

It is unnecessary to remind our readers of the wholesale and indiscriminate practice of iridectomy, which tended to bring the operation into disrepute, nor of the controversy respecting its utility, which has not yet terminated; opinions are still divided; some of the most eminent oculists being still opposed to the operation. Amongst those who were for a long time adverse to iridectomy in glaucoma was, we believe, Mr. Dixon, but we find by the work under consideration that he has seen reason to change his views; for he says at p. 239:—"We may well be satisfied with the knowledge that in iridectomy we have a means of controlling an otherwise incurable disease, and saving patients from the blindness which was formerly its inevitable result." And again, at p. 242, he alludes to "the benefits of iridectomy, without which utter blindness must inevitably have closed the scene." This mature and deliberate opinion of such an honest and sound surgeon as Mr. Dixon, must carry great weight indeed. There can, we believe, be now no doubt as to the propriety and necessity of the operation. Knowing the fatality to vision of the disease, we are bound in duty to our patient, as well as to ourselves, to practice iridectomy.

Belladonna, or its alkaloid, atropia, is one of the most active and salutary remedies in ophthalmic therapeutics. Yet it is in the work before us, we may say, conspicuous by its absence. It is mentioned in connexion with scrofulous iritis and syphilitic iritis in infants, and that is all. We have read somewhere in print an explanatory letter from Mr. Dixon, stating that he had absolutely written a paragraph on the necessity for atropia in iritis generally, but that by mere accident it was not sent to the printers, and the matter escaped his attention; but, for the very few who may have seen that letter, many will have read his work, and some will consider that he still maintains his old doctrine respecting the inapplicability of atropia in syphilitic iritis of adults. But the omission by the author of this agent in other affections is not merely accidental, and we cannot but look upon it as a most necessary part of our treatment in very many other conditions, such as injury or ulceration of the cornea, with formation of pus in the anterior chamber, corneitis, aquo-capsulitis, perforating ulcer or wound of the cornea, &c., &c. In all these it will be found that the iris becomes engaged, and its pupillary opening endangered. In addition to the mechanical action of atropia, we believe it exerts, also, a beneficial antiphlogistic action on the eye, and lessens the intraocular vascularity. Having seen many instances

where vision was lost through the non-employment of belladonna, we entertain strong opinions on the subject; and we would willingly consent to have nitrate of silver altogether expunged from the oculist's medicamenta, if we could thereby secure the more general employment of atropia. The latter may, in any doubtful case, cause temporary inconvenience; it cannot, however, do any harm, and it may do good, whereas nitrate of silver may do good, but it may also do an infinity of mischief.

Messrs. Laurence and Moon's Handy-book is eminently scientific and practical, written up to the present state of ophthalmic knowledge, and fully sustaining Mr. Laurence's reputation as an original thinker, and a clever and learned author. We would draw particular attention to Mr. Laurence's ingenious and valuable adjusting binocular ophthalmoscope, described and figured at p. 9, which possesses advantages over Giraud-Teulon's instrument. We would likewise direct attention to his head-rest, which acts as a "very useful assistant, for it does all that is required of it without being in the surgeons way." This apparatus may be screwed on the operating table or sofa, and holds the head of the patient about to be operated on as in a vice. There are very many practical points in the book we would wish to discuss, but we can only refer our readers to the work itself, which we can do with every confidence, and the assurance that they will find in it much valuable and novel information. At p. 67 the authors state that "on no account should the acetate of lead in solution be employed in the treatment of ulceration of the cornea, as some of it will, in all probability, be precipitated, and become adherent to the surface of the ulcer, and may even be permanently fixed in the cicatrix," and they strongly recommend atropia solution. This warning, which cannot be too frequently urged, emanated, if we recollect aright, from Dr. Jacob, for whom Professor Apjohn analyzed some scales removed from the cornea.

Some of the most troublesome affections with which the surgeon has to deal are those of the lachrymal apparatus; they require very great care and persevering attention on the part of the surgeon, and the utmost patience on the part of both practitioner and patient. And after months or years even of the most careful treatment, they will sometimes be but slightly benefited. It is proposed in this work to revive the old recommendation, of obliteration of the lachrymal sac, and removal of the lachrymal gland. Mr. Laurence has

carried out the latter operation with perfect success in nine instances, as we learn from the October number of the *Ophthalmic Review*, where Mr. Laurence says, "he considers removal of the lachrymal gland applicable to those cases of inveterate lachrymal fistula, which other methods, after a fair trial, have failed to cure, the operation offering the best prospect of a radical and permanent cure." Mr. Laurence states that the eye continues completely moist after the removal of the gland. The chapters on vision, and optical defects of vision, should be carefully perused; the fact of their being almost a reprint from Mr. Laurence's previous work, *Optical Defects of the Eye*, 1865, does not detract from their great value.

Dr. Williams' Essay obtained the Boylston prize, given by the Harvard University, and is a carefully written, though necessarily brief compilation of modern discoveries, doctrines, and practice. This author has been led into error, as indeed many others have been, in assigning to Mr. Critchett the merit of originating the operations for the removal of entropion and staphyloma, the credit of which is due to Sir William Wilde. Many of the Irish profession have witnessed, and some no doubt have practised them long before Mr. Critchett performed them, or published his accounts of them. We are quite sure Mr. Critchett was not aware of Sir William's having described or performed these operations before himself. Dr. Williams speaks of diabetes as a renal disease, but we doubt whether this view is a general one in America.

The employment of anesthetics in ophthalmic practice has been, and indeed is still, a disputed point; we believe they are indicated in many cases either to allay pain or nervous apprehension on the part of the patient, or to facilitate the performance of delicate operations. Dr. Williams, as well as the whole of the Boston surgeons and physicians, prefer ether to chloroform as a safer agent for such purposes.

Dr. Williams has proposed and carried out "with invariable success" a perfectly novel feature in the operation of flap extraction; after the cataract has been removed in the ordinary manner, and under the influence of ether he brings the edges of the corneal flap together by sutures, and thus places the flap in "conditions where its displacement will be prevented, its union, by primary adhesion, promoted, and swelling and suppuration of its border rendered most unlikely to occur. Prolapsus of the iris, another of the sequelæ we have most to fear, is rendered almost impossible." He employs "a

straight needle, only a quarter of an inch long, made by cutting off the requisite length from the head of the finest sewing needles, and forming a new point. The needle is held and passed through the cornea by means of a pair of firm forceps, and the suture, formed by a single strand of silk or the finest thread, is tied, not too tightly. This is allowed to remain until it cuts itself out, which is sometimes not for several days, or even weeks; as there is danger of re-opening the wound if its removal is attempted, unless during anesthesia." He has "known it to remain *in situ* seven weeks without causing inconvenience."

Mr. Vose Solomon's treatise, which embodies a paper read by him before the English Midland Medical Society, and published in the *British Medical Journal* in 1863, is a learned article, in which much bibliographical knowledge and research are brought to prove that Mr. Hancock has no claim to originality in his operation of division of the ciliary muscle for the relief of glaucoma. Mr. Solomon condemns this operation, and states that it has "in the hands of every surgeon who has given it an extended trial, failed to cure idiopathic glaucoma." Mr. Solomon, however, has originated a different method of dividing the ciliary muscle, and calls it intra-ocular myotomy, which operation he extols as a remedy in cases of glaucoma, disorganized and tense globes, myopia, acute choroiditis, and choroido-retinitis. It is stated that by this operation is effected division of the ciliary muscle, division of the iris close to its origin, and an "important neurotomy of the ciliary nerves, and, perhaps, filaments of the fifth pair." Mr. Solomon lays great stress upon the state of the digestive organs, and says that when these are deranged from any cause, or "where there is evidence of constitutional syphilis, intraocular myotomy is not advisable." Mr. Solomon's paper is somewhat of a controversial character, and will, no doubt, possess great interest for the small number of practitioners who may still cling to division of the ciliary muscle or intra-ocular myotomy, in preference to the more established operation of iridectomy. The author has committed an offence of which an ophthalmic surgeon, above all others, should not be guilty, in employing type of such a small size, and so close together, that it is, in our opinion, detrimental to the reader's vision; nearly one-half of the page, moreover, is blank space.

Professor Wharton Jones' little book appears to have been

written more for the laity than the profession, and probably with a view to popularize science and medicine, and seems to belong to the half-crown volumes of the Popular Medical Series. Such works as this may possibly be of service, but we very much doubt their necessity or utility.

Mr. Watson's brochure, reprinted from the *Medical Mirror*, is an enumeration and careful analysis of a number of cases of diseased conditions in the orbit, which have from time to time been recorded by various authors, and will prove a useful and acceptable compilation to the busy practitioner who may have occasion to refer to its pages.

Since the foregoing was written, Mr. Lawson's book has come to hand, and we regret that the amount of space at our disposal is quite inadequate to the discussion of the merits of the work, or even for quotations from its pages. We can only briefly refer to its contents, and hope our readers will study the work itself, which will well repay the time spent in its perusal.

A very common accident is injury from lime, and the author repeats the old advice (so seldom, unfortunately, acted on) of employing weak vinegar and water, or dilute acetic acid and water, in case the patient is seen very early after the accident. He says at p. 56:—"In all injuries to the eyes from chemical agents, a solution of the antidote should be first used, if the patient is seen sufficiently early to render its application of service." Thus, after injuries from strong acids, weak solutions of bicarbonate of potash, or sesquicarbonate of soda, are recommended to syringe the parts with, oil and glycerine being the most suitable applications in the subsequent treatment. Attention is also drawn to a not uncommon accident—abrasion of the epithelial layer of the cornea; this is seen frequently in mothers who are suckling; the infant claws at the eye and frequently scrapes off some of the epithelium. In unhealthy lactating women the prognosis should be very guarded, as the injury, though apparently so trivial, may be followed by very grave results. Mr. Lawson is one of the only writers who, in our opinion, uses the term *onyx* correctly; that term signifies a collection of pus in the anterior chamber, whereas *hypopion* signifies pus in the laminae of the cornea.

From the earliest times oculists have ransacked the chemical laboratory for agents and substances to cure opacities of the cornea.

Mr. Lawson practically remarks:—"It is often astonishing to witness how much clearing of the cornea will be effected by the natural restorative power of the patient, if it is unthwarted by drops into the eye. * * * Numerous remedies were vaunted as of service for removing or diminishing the nebulæ of the cornea, but I believe that none are specific, and that the benefit which may result from the use of any of them is solely due to their acting as a slight irritant, and by their stimulating the absorbent vessels of the cornea to an increased activity." We quite agree with the author, and cannot too severely condemn the practice of employing nostrums, such as prussic acid, bisulphide of carbon, &c., to cure incurable opacities. Mr. Lawson directs attention to the mode of removing deposits of lead from the cornea, and figures, at p. 89, a small knife, curved on its convex and cutting edge, which will be found very handy. We have ourselves practised the removal of such deposits from the cornea, occasionally with very beneficial results; the eye requires very careful after treatment, however, as a low form of inflammation is not unlikely to follow, with formation of pus in the anterior chamber and iritis. In treating of staphyloma Mr. Lawson follows his school, and ascribes to Mr. Critchett the operation for the removal of staphyloma by abscision and ligature—an operation we learned from Sir Wm. Wilde, and practised long before Mr. Critchett; he quotes also, from the *Archiv. für Ophthalmologie*, von Graefe's method of treatment by seton; this method is also of old origin, and, in our opinion, valueless. Some of the readers of this Journal will remember seeing cases treated in this manner by Dr. Jacob; and we recollect one instance, in particular, about ten years ago, in which Wilde's operation was performed on a patient with the useless seton still *in situ*.

One of the most remarkable injuries to the eye is that recorded, from the practice of Mr. Critchett, at p. 123, in which the iris was ruptured, so that a second pupil, bounded on every side by iris, was formed, and yet neither cornea, sclerotic, nor lens had been wounded.

A very good description and delineation of Liebreich's invaluable eye-bandage will be found at p. 172.

The chapters on intraocular hemorrhages, gunshot wounds, and rupture of the globe, are most interesting and instructive; but even more so will be found that part which treats of sympathetic ophthalmia, an affection deserving our gravest and most anxious

consideration, as many eyes are lost through ignorance or neglect of this most formidable malady. Frequently, after injury of one eye, sympathetic inflammation attacks the second eye, and proceeds, if unrecognized and unchecked, to the destruction of vision in it. The recognition and treatment of this terrible disease becomes, then, of the highest importance; and such is its nature that, generally, nothing less than the excision of the injured and offending eyeball will place the second eye in safety. The operation of enucleating the globe out of its capsule, first suggested by Dr. O'Ferrall, of this city, is very easily and speedily performed, and followed by rapid recovery.

Not the least interesting features in the work are the cases appended to the description of each injury; a case accurately and carefully recorded is most invaluable. "The truthful record of what has been," Mr. Lawson remarks, "makes a more lasting impression on the mind than the mere detail of what may be." Although the work is entitled "*Injuries*," the reader will find in it admirable brief accounts of nearly every operation on the globe, and particularly of those for cataract most in use in the present day.

We have derived both pleasure and instruction from the work, and heartily congratulate Mr. Lawson on its production; it is lucidly and concisely written, and a thoroughly practical and trustworthy work, which must become a standard one in our libraries. The book reflects great credit also on its publishers; the type is clear and sufficiently large, the paper excellent, and the illustrations good. Appended to it is an abstract of the surgical report of the Royal London Ophthalmic Hospital, and a set of test types.

Dr. Mooren's work contains a careful analysis of the cases which occurred in his practice during the nine years, 1856 to 1865, with commentaries and practical observations; the work is in the form of a text-book, and contains very valuable statistical tables on various subjects, such as the annual number of patients treated at various ophthalmic hospitals, viz.:—Royal London, Moorfields, 15,951; Ophthalmic Hospital, Moscow, 7,924; Birmingham, 7,358; Berlin, 6,800; Düsseldorf, 4,117; Manchester, 4,005. From another table it appears the number of cataract operations performed annually, are—Berlin, 325; London, 244; Moscow, 182; Vienna, 170; Prague, 153; Düsseldorf, 143. It is curious when we, residing in Ireland, and rarely witnessing the operation for strabismus,

read of its being performed 580 times annually in Berlin; 252 in Düsseldorf; 240 in Birmingham; and 222 in London.

Dr. Mooren is the chief and acting oculist to the Eye Hospital in Düsseldorf, which possesses 80 beds and upwards of 4,000 patients, during the course of the year. The work now before us shows how he has taken advantage of his opportunities and worked up his abundant materials into a most excellent publication, replete with practical information and scientific knowledge; one of the advantages of the book is that its author is completely informed, and also imparts information himself, on all the latest discoveries and improvements in his specialty. His views and assertions are based on and supported by cases and statistics quoted in the text.

The author devotes considerable space to the subject of sympathetic inflammation; in 37 cases of total blindness, quoted as resulting from sympathetic disease, the original cause was, in 12 wound of sclerotic and ciliary body, 6 wounds of the globe generally, 7 reclinacion of cataract, 4 staphylomatous growth, 1 prolapse of iris, 1 choroiditis, 3 irido-cyclitis, 3 detachment of retina after irido-cyclitis. In 20 other instances impairment of vision to a greater or less extent, short of blindness, had resulted from sympathetic inflammation attributable to the following causes: reclinacion 9, injuries 4, artificial eye 1, choroiditis 6. The author attributes the disease to, 1st, direct injury of the ciliary region; 2nd, mechanical irritation of the ciliary body, either by a foreign body (artificial eye), or by the lens acting as a foreign body in consequence of reclinacion, dislocation, staphylomata; 3rd, every inflammation of any portion of the uveal tract which culminates in cyclitis, and lays particular stress on the following aphorisms:—"In all the observed cases, painfulness of the ciliary body on external pressure was the never-failing symptom which denoted the danger of sympathetic disease. Mere prevention or restriction of the accommodation power in the healthy eye was, taken by itself, no proof of the existence of sympathetic disease; this fact became of great importance only when it arose in combination with painfulness of the ciliary body. When these phenomena were present the only possibility of saving the second eye lay in enucleation of the one previously diseased."

A very curious and rather rare form of malformation is mentioned at p. 41, as occurring in two brothers, viz., absence of the eyeballs. The orbits and lids were perfectly formed, and the recti muscles were present; inserted, the author conjectures, into the capsule of tenon. The position of the optic nerve was indicated

by a little fossa, and when it was endeavoured to open the lid widely, the recti muscles projected during the struggles of the child.

The chapter on diseases of the lens is most interesting and important. Dr. Mooren gives tabular statements of his cataract operations, from one of which it appears he has performed the following operations:—1st. Normal extraction, 187; lost 17 = 9 per cent. loss. 2nd. Extraction, with previously performed iridectomy, 229; lost 14 = 6 per cent. loss. 3rd. Extraction, with accompanying iridectomy, 11; lost 1 = 9 per cent. loss. 4th. Traction (spoon) extraction, 34; lost 12 = 32 per cent. loss. 5th. Linear sclerotic extraction (Graefe's new method), 102; lost 3 = 3 per cent. loss. With the exception of the traction extraction, these results are, we consider, remarkably satisfactory. We cannot conceive, however, how so high a mortality has been obtained for the spoon extraction, for in our own hands the loss has not been at all equal to Dr. Mooren's, and the per centage of lost eyes, after this operation by Mr. Bowman, has been about 8, and somewhat about the same in the hands of von Graefe. The most favourable results were obtained from Graefe's new modified linear extraction, which seems at present likely to supersede all other methods; but it requires some additional experience before pronouncing on this point. Cataract operations appear just now to be on their trial. There seems also to be a good deal of fashion in the matter. Each new extraction method is taken up and proclaimed by its practitioners as destined to supersede and outlive all others. Dr. Mooren's results are, we believe, equal, if not superior, to Graefe's, three per cent. loss being very small. The old flap extraction appears to be put aside altogether, but it may possibly be only temporary; certainly few methods can give better results than Graefe obtained from it, viz., 5 per cent. loss, 11 per cent. half cured, and 84 per cent. complete recoveries. Dr. Mooren properly condemns the operation of couching or reclination, a method now happily almost unknown in this country, but one which must still be practised largely in the Rhenish provinces, for it is mentioned in the work before us as a very frequent cause of sympathetic inflammation.

We regret not having space to quote further from this work, or to detail any of the particulars from the ophthalmoscopic department. One of the most interesting tables we have seen is that relating to infiltrations of the retina, their causes, conditions, and

amenity to treatment. These "observations" are a most important and valuable addition to our knowledge, and will be found highly instructive as well as interesting.

On the Anatomy of Vertebrates. Vol. I.: *Fish and Reptiles.* Vol. II.: *Birds and Mammals.* By RICHARD OWEN, F.R.S.; Superintendent of the Natural History Departments of the British Museum; Foreign Associate of the Institute of France, &c. London: Longmans, Green, and Co. 1866.

THIS work of Professor Owen's is intended to complete the outline of the organization of the animal kingdom, which was begun by the *Lectures on the Anatomy and Physiology of the Invertebrates*, published in 1834. In a Journal like ours, devoted to the more practical details of the medical profession, it would be somewhat out of place to enter into any very critical review of a work on comparative anatomy. But when that work proceeds from so eminent a member of our profession as Professor Owen—one who holds the very highest place in these countries attainable by a biologist—it needs but little excuse to trespass for a little time upon the reader's attention, while we notice, as briefly as possible, the subject matter of these volumes.

The Vertebrates are divided into two groups. *Hæmatotherma*, having the four-chambered heart, spongy lungs, and hot blood; and the *Hæmatocrya*, having less perfect breathing organs, less complex heart, and cold blood. This division is acknowledged to be altogether an artificial one, but is selected as convenient. The first volume is devoted to the consideration of the latter group, which is subdivided into five sub-classes:—1. The *Dermopteri*, containing the Cyclostomous fishes. 2. The *Teleostomi*, containing the Malacopteri, Anacanthini, Acanthopteri, Plectognathi, Lophobranchii, and Ganoidei. 3. The *Plagiostomi*, containing the Holocephalous and Plagiostomous fishes, with the Lepidosiren. 4. The *Dipnoa*, containing the extinct orders—Ganocephala and Labyrinthodontia, and the Batrachia. 5. The *Monopnoa*, containing all the recent and extinct orders of true reptiles. It will be seen that the first four classes contain those Vertebrates that at one time or other, during their existence, breathed by means of gills; and the last those which always inspired by means of lungs; and we scarcely

think these five classes will supersede the nearly corresponding ones of Pisces (=1, 2, 3), Batrachia (=4), and Reptiles (=5).

The Hematocrya are treated of as one group. In fishes the bones continue to grow throughout life. In most reptiles the long bones retain a layer of ossifying cartilage beneath the terminal articular cartilage, and growth continues at their extremities while life endures. Some of the long bones in frogs have ossified ends or epiphyses, and the seat of growth is in the cartilaginous crust at the ends supporting the epiphyses. The gradual development of the portions of the skeleton in each class is well and succinctly traced in the second chapter, but does not admit of being epitomized. We, however, append the general conclusion, as showing the peculiar views of the author as to the division of the bones of the head:—

“At the outset of the study of Osteology it is essential to know well the numerous bones in the head of a fish, and to fix in the memory their arrangement and names. The latter, as we have seen, are of two kinds, as regards the bones of the neuroskeleton: the one kind is ‘general,’ indicative of the relation of the skull bones to typical segment, and which names they bear in common with the same elements in the segments of the trunk; the other kind is ‘special,’ and bestowed on account of the particular development and shape of such elements, as they are modified in the head for particular functions. A great proportion of the bones in the head of a fish exist in a very similar state of connexion and arrangement in the heads of other vertebrates, up to, and including, man himself. No method could be less conducive to a true and philosophical comprehension of the vertebrate skeleton than the beginning its study in man—the most modified of all vertebrate forms, and that which recedes furthest from the common pattern. Through an inevitable ignorance of that pattern, the bones in Anthropotomy are indicated only by special names more or less relating to the particular forms these bones happen to bear in man; such names when applied to the tallying bones in lower animals, losing that significance, and becoming arbitrary signs. Owing to the frequent modification by confluence of the human bones, collections of them, so united, have received a single name, as, e.g. ‘occipital,’ ‘temporal,’ &c.; whilst their constituents, which are usually distinct vertebral elements, have received no names, or are defined as processes, e.g. ‘condyloid process of the occipital bone,’ ‘styloid process of the temporal bone,’ ‘petrous portion of the temporal bone,’ &c. The classification, moreover, of the bones of the head in Human Anatomy, viz., into those of the cranium and those of the face, is artificial or special, and consequently defective. Many bones which essentially belong to the skull are wholly omitted in such classification.

"In regard to the archetype skeleton, fishes, which were the first forms of vertebrate life introduced into this planet, deviate the least therefrom; and according to the foregoing analysis of the bones of the head, it follows that such bones are primarily divisible into those of—the Neuroskeleton, the Splanchnoskeleton, the Dermoskeleton. The neuroskeletal bones are arranged in four segments called—the Occipital vertebræ, the Parietal vertebræ, the Frontal vertebræ, the Nasal vertebræ.

"Each segment consists of a 'neural' and a 'hæmal' arch (Fig. 81, N, H). The neural arches are—N I. Epencephalic arch (bones Nos. 1, 2, 3, 4); N II. Mesencephalic arch (5, 6, 7, 8); N III. Prosencephalic arch (9, 10, 11, 12); N IV. Rhinencephalic arch (13, 14, 15).

"The hæmal arches are—H I. Scapular arch (50, 52); H II. Hyoidean arch (38-43); H III. Mandibular arch (28-32); H IV. Maxillary arch (20-22).

"The diverging appendages of the hæmal arches are—1. The Pectoral (54-57); 2. the Branchiostegal (44); 3. the Opercular (34-37); 4. the Pterygoid (23-24).

"The bones or parts of the Splanchnoskeleton which are intercalated with or attached to the arches of the true vertebral segments are—the Petrosal (16) or ear-capsule, with the otolite, 16''; the Sclerotol (17) or eye-capsule; the Turbinal (19) or nose-capsule; the Branchial arches (45-49); the Teeth.

"The bones of the Dermoskeleton are—the Supratemporals (74); the Postorbitals (72); the Superorbitals (71); the Suborbitals (73); the Labials (75), and others which will be pointed out in certain ganoid fishes.

"Such appears to be the natural classification of the parts which constitute the complex skull of Osseous fishes."

"The bones of the head being in completest number, departing least from the vertebral pattern, and susceptible of the most intelligible definition in the class of Fishes, afford the best basis for determining their homologies, and fixing their nomenclature in the higher vertebrate series."

The chief masses of the muscular system in ordinary osseous fishes are disposed on each side of the trunk in a series of vertical flakes or segments, corresponding in number with the vertebræ. Each lateral flake (myocomma) is attached by its inner border to the osseous and fibrous parts of the corresponding vertically extended segment of the endoskeleton; by its outer border to the skin; by its fore and hind surfaces to an aponeurotic septum, common to it and the continuous flakes. In the sharks, the margins of the middle portions of the myocommas form, instead of a curve, an angle, with

the apex turned forward; and in the rays, the dorsal portions become insulated from the middle ones, and metamorphosed into a continuous longitudinal muscle. In fish like batrachia, and in ophidia the portions before the lateral line become grouped into three longitudinal muscles; the chief bulk of the tissue is arranged in transverse segments, but the progress of massing into longitudinal groups is greater than in the sharks; and this is still better seen in the higher reptiles.

The chapter on the nervous system is very excellent. The *Encephalon* is divided into four primary segments—the *epencephalon*, consisting of the medulla oblongata and cerebellum; and this is, relatively, the largest in fishes. The presence of the “vagal lobes” and nodulus being characteristic of fishes, they also have no lateral lobes in their cerebellum, and no “pons.” The *mesencephalon* consists of two “optic lobes,” and of the “hypoaria.” The *prosencephalon* consists of two small masses, usually solid and in close contact with the optic lobes, these in some Plagiostoms have a ventricular fissure and a choroid plexus, and are homologous with the cerebral lobes of mammals. The *rhinencephalon*, consists of the olfactory lobes. In reptiles, the prosencephalon is larger than in fish, and the cerebral lobes are better marked.

The dental tissues are treated of along with the digestive system. A tooth is defined as a hard body attached to the mouth or commencement of the alimentary canal, partially exposed when developed. Calcified teeth are peculiar to the vertebrates, and may be defined as bodies prominently, if not permanently, distinct from the skeleton, consisting of a cellular and tubular basis of animal matter, containing earthy particles, a fluid and a vascular pulp. Both in regard to their number, form, substance, structure, situation, and mode of attachment, fish offer a greater series of varieties in their teeth than do any other vertebrates. Thus they vary in number from zero to countless quantities; from being of the shape of three, four, or six-sided prisms, until they even resemble in appearance the canine teeth of carnivores. In reptiles many are edentulous; many have simple teeth; but they never are so many or so few in number as in fishes, nor are they ever developed in the median line of the mouth. Specialized teeth, or poison fangs, occur among the ophidia; and among some extinct orders of batrachia and reptiles some most extraordinary modifications of teeth are met with.

The abdominal cavity in fishes occupies a smaller proportion of

the trunk than in reptiles; and in them the alimentary canal is usually short, simple, but capacious. The stomach is either "siphonal" or "cœcal;" and with a few exceptions, the intestines are divided into "small" and "large." In reptiles, the cavity which contains in fishes the alimentary canal, contains also the heart and lungs. In them the tongue is also developed both as an organ for prehension and taste. The œsophagus is short and wide in batrachia, long and wide in ophidia; of moderate length and width in chelonia; narrower in crocodilia; and still more so in the insectivorous lacertilia. In the ophidia and bacrachia the stomach is simple; it is more complicated among the chelonia; and in the crocodilia we find the most complex stomach among the reptiles.

The blood-discs in fishes are commonly of a full elliptic shape, but are sometimes circular: they present the largest size in the sharks. There is only one fish, the *Amphioxus*, in which a branchial heart is not developed as a compact and predominant muscular organ of circulation; while in the *Lepidosiren* we meet with the highest organized heart in this class. The different forms of gills and supplemental breathing organs are described in detail. Under all its diversities of structure and function the homology of the swim-bladder with the lungs is clearly traceable, and in those orders of fishes which lead more directly to the reptiliæ, as for example, the Salamandroid, Ganoidei, and Protopteri, such further modifications are superinduced upon the air-bladder, as to make it become analogous in function to the lungs of air-breathing Amphibia. In reptiles the blood has red corpuscles of a flattened (not bi-convex) elliptical shape, smallest in Ophidia, roundest in Chelonia, and largest in Batrachia. The blood of the Ophidia is the richest in solid constituents of all the cold-blooded vertebrates. In the reptiles the heart rapidly advances towards perfection, until in the crocodile it needs only to obliterate the left aorta to appropriate the right ventricle exclusively to the service of the pulmonary artery, and the left one to the aorta, to convert the heart into that of a bird.

In fishes the "corpora Wolffiana" remain persistent, and are called kidneys. In the air-breathing vertebrates they are transitory. In reptiles the kidneys are always a distinct pair; but, as in fishes, the renal tissue is uniform.

The tegumentary organs of vertebrates, where they do not happen, as in exceptional instances or parts of the body, to blend with the periosteum of the endoskeleton, are defined from subjacent structures by loose or yielding connective tissue; hence the facility with which vertebrates of all classes can be "skinned," the part so

removed is the “tegument,” and constitutes the outermost of the organs differentiated in the course of development from the serous layer of the plastoderm. Bulbs of hair and feathers, horny scales, and fish scales—setaceous, sudoriparous, and mucous follicles—may be developed in and from the derm: the epiderm may be condensed into nails, claws, hoofs, horns, and horny scales.

The first volume concludes with an account of the organs of generation of the Hæmatocrya, and of their development.

The first twelve chapters of the second volume are devoted to an account of the birds; and the latter two to an account of the character and primary groups of the mammalia, and of their osseous system. These two classes constitute, as we have seen, Professor Owen's group of hæmatotherma, or warm-blooded vertebrates. Save in the case of the cetacea and of human beings, this group may be at once recognized by the non-conducting and heat-preserving nature of its clothing; which is “hair,” as a general rule, in mammals, and “feathers” in birds.

Birds, Professor Owen remarks, form the best characterized, most distinct, and natural class in the whole animal kingdom—perhaps even in organic nature. They present a constancy in their mode of generation, and in their tegumentary covering, which is not met with in any other of the vertebrate classes. No species of birds ever deviates, like the whale among mammals, the serpents among reptiles, and the eels among fishes, from the tetrapodous type characterizing the vertebrate division of animals.

The division of the birds into orders is the most unsatisfactory portion of this volume. With every wish to know the views of the author, we are yet unable to decide whether he intends to omit the order, Cursores, and to place the Struthious birds with the bustards, or to constitute it as an eighth order, to come after that of the Raptores. The fifth order, called Volitores, is apparently the same as Mr. Wallace's Fissirostres, containing even such abnormal families as those of the Bucerotidæ and Trochilidæ, whereas the humming birds are referred to the Passeres, at p. 150; indeed, we should say, it was evidently copied from Mr. Wallace; and yet the swallows are ejected, we cannot guess why, from the order, and placed as a family among the Cantores (Passeres). This, at any rate, is against the spirit of Mr. Wallace's paper. The uncertainty of this portion of the volume does not, however, vitiate the more exclusively anatomical portions. The osseous system is treated of in most detail. In birds the skeleton is remarkable for the rapidity of its ossification, and the light and elegant mechanism displayed in the

adaptation of its several parts. The osseous system is compact, and exhibits more of the laminated, and less of the fibrous, disposition than in the other vertebrate classes. This is more especially the case in those parts of the skeleton which are permeated by the air. The bones which present this singular modification have a greater proportion of the phosphate of lime in their composition than is found in the osseous system of the mammalia, and they are whiter than the bones of any other animal. Anchylosis so fetters the vertebral column that from no part can a single segment, with all the elements, be detached without using the saw. The skull includes four; the sacrum a greater number of vertebræ, of more or less of which the hemal portions alone retain freedom. The remaining segments may be classified as "cervical," "dorsal," and "caudal;" in the first and last the pleuropophysis, if present, is confluent with the neural arch; in the dorsal series, the pleuropophysis and hemapophysis are flexibly articulated; but the hemal spines are connected, and represented by a single bony plate.

The muscular system of birds is remarkable for the distribution and density of the fasciculi; the deep red colour of those chiefly employed in vigorous action, and their marked separation from the tendons, which are of a pearly shining colour, and have a peculiar tendency to ossification. The elementary fibres are much smaller, and less sharply angular than in reptiles; the blood-vessels being more abundant, and occupying more space in their intervals. The central nervous system in the bird differs from that of the reptile in the superior size of the cerebrum and cerebellum, together with the folding of the latter, which relates probably to the higher locomotive powers of the bird. From the mammal brain it differs in the absence or small beginning of the fornix, and of the lateral lobes of the cerebellum; and from that of every other class in the lateral and inferior position of the optic lobes.

The digestive system is considered under the head of the rostrum, or beak, the tongue, the œsophagus, the stomach, which is always divided into a glandular and muscular portion; the intestines, and the cloaca. With these are connected the salivary glands, the proventricular follicles, the liver, and pancreas. Space will not permit us to dwell, even in a cursory way, on any of these interesting subjects. The liver would appear to be relatively largest in the less active aquatic and land birds; smallest in those that fly best and breathe most. Compared in the limits of the class, the liver would seem to be developed inversely, as the lungs and their appendages;

and, so far as it is associated with the lungs in eliminating waste elements from the blood, to have less to do in that way, as the breathing organs perform most.

The absorbents of birds have fewer valves than those of mammals. The lymph resembles that of the mammalia; but the chyle differs in its transparency, and want of colour. The absorbents would appear only to correspond to the deep-seated absorbents in the higher animals. Lymphatic glands are few in birds. The absorbents terminate principally by two thoracic ducts, which enter the right and left jugular veins by several orifices.

The blood is hot, and of a deep red colour. The heart, which is always cone-shaped, is situated more anteriorly and mesially than in the mammalia. The right auricle is much larger than the left; and the right ventricle is remarkable for the smoothness and evenness of its inner surface. In the details of the vascular system, Professor Owen adopts, with very little modification, the description of Macartney, by whom it was first and best described. It may be well to mention that the accuracy of Macartney's observations as to the strange anastomosis of the occipital with the vertebral artery in birds has been confirmed by Barkow,^a who found it so in all the birds which he injected.

The organs subservient to respiration manifest more of the reptilian than of the mammalian type of formation. As in the tortoises the lungs are confined to the back part of the thoracic-abdominal cavity; being firmly attached to the ribs. As in the serpents, they communicate with large membranous cells, which extend into the abdomen, and serve as a reservoir of air. In the apteryx alone they do not penetrate the diaphragm. In such aquatic birds as are deprived of the power of flight, such as the penguin, the air receptacles are confined to the abdomen. The statement that in the Volitores, even in the hornbill, every bone of the skeleton is permeated by air, is, we fear, too general a one to be absolutely correct. In connexion with the respiratory system, the air passages in birds are described.

In the mature bird the urinary system consists of the kidneys, ureters, and a more or less incomplete urinary receptacle. Those in which this latter portion is most developed are the owls; many of the aquatic birds, as the pelican, swan, gull, &c.; some of the

^a Untersuchungen über das Schlagadersystem der Vögel. Meckel's Archiv für Physiologie, 1828, p. 305, et seq.

waders, as the bittern and bustard; but, most of all, the ostrich, among the *Cursores*.

Sebaceous follicles are not fully developed in birds. To those scattered over the integuments is due the peculiar odour of such birds as the Muscovy duck, black vulture, hoopoe, &c. The gland above the uropygium is probably an extra development of sebaceous glands, secreting an unctuous fluid for lubricating the bird's feathers, and is most developed in aquatic birds.

The tegumentary system of birds is treated of in some detail, and we may notice, in passing, that the only figure illustrating that "mechanical wonder," a feather, is one borrowed from a work nearly a century and a half old, the only difference being that Perrault calls his own figure "*un morceau de la queue du tuyau d'une Plume vû avec le Microscope.*" The copy on page 234 of this volume is called a "diagrammatic section of the shaft and vane." We have often been puzzled over the figure, the counterpart of which we have looked for in vain in nature, and which as a diagram we equally fail to comprehend.

The last two chapters on birds treat of their generative system, and of their development.

The third and last volume will complete the comparative anatomy of the mammalia. We shall wait until its appearance to notice the last two chapters of the second volume. In the meanwhile we have shown the reader the great value and importance of this manual of comparative anatomy.

On Diseases of the Stomach, the Varieties of Dyspepsia, their Diagnosis and Treatment. By S. O. HABERSHON, M.D., Lond.; Fellow of the Royal College of Physicians; Physician to Guy's Hospital; Lecturer on Materia Medica and Therapeutics at Guy's, &c., &c. 1865.

The Causes and Treatment of Imperfect Digestion. By ARTHUR LEARED, M.D., Dub. and Oxon.; M.R.I.A.; Member of the Royal College of Physicians, London; Senior Physician to the Great Northern Hospital, and Physician to the Royal Infirmary for Diseases of the Chest; late Lecturer on the Practice of Medicine. Fourth Edition. 1866.

THE medical press of London has of late been very active in the production of new works on the disorders of the digestive system.

This prolific energy has apparently not been caused by any new and startling discoveries in the physiology of digestion, for we find no very recent physiology in the works before us; we must conclude, therefore, that other causes not difficult to determine have presided over the late literature of this subject. A thoroughly good treatise on the functional diseases of the stomach has been long wanted, both by the practitioner and the student; but in these days, when every malady must be referred to some organic change, when the very existence of functional disorders is assailed, the study of conditions so difficult to analyse as indigestion has not attracted the accurate inquiry which it deserves. Chemistry and the microscope have not yet entered this tract of pathology in sufficient force, and few are inclined to labour at a subject in which, relatively, so little scientific knowledge has been obtained. In our review of the two works before us we shall have to consider how far they satisfy the want we have spoken of, but as one of them comes to us with the authority of a "fourth edition," its consideration will necessarily occupy a more limited share of our space.

In his preface Dr. Habershon alludes to his former work, entitled, *Pathological and Practical Observations on Diseases of the Abdomen*, and tells us that his own experience, without these pathological observations, is contained in the present volume. The work is intended to be a practical one. In the introduction which precedes the eighteen chapters into which the book is divided, our author makes his attempt to classify the various forms of the disease on which he writes. The classification of the forms of a malady so protean as dyspepsia, and of which we have at best but a very imperfect knowledge, is a most arduous task, and one, in the present state of physiology and physiological chemistry, not to be satisfactorily accomplished. In the *Diseases of the Abdomen* the affections of the stomach were arranged on an anatomical (or, as it is called, physiological) basis, as follows:—"1st. The dyspepsia arising from disorder of the mucous membrane of the stomach and its secretion; 2nd. That arising from the muscular movements of the stomach being impeded; 3rd. From an abnormal state of the vascular supply; 4th. From changes in the condition of the nervous system; and, lastly, from improper diet, or from chemical decomposition taking place during the digestive process." Some little fault might be found with such a division, but it was by no means a bad one, and, in our opinion, very much to be preferred to the cumbrous arrangement in the volume under notice. We will take

Dr. Habershon's new classification; and in considering the various forms of dyspepsia spoken of therein, we shall analyse the greater part of the book, inasmuch as ten of the thirteen chapters are devoted to the consideration of the varieties mentioned.

First we have "Dyspepsia from weakness, whether from general imperfect nutrition and diseased vessels, or from exhaustion of the cerebro-spinal nervous system, or from failure of the nerve of organic life; atonic dyspepsia, as it might aptly be termed." On turning to the chapter devoted to the consideration of this form, we find that the dyspepsia spoken of as arising from diseased vessels in the above extract, is most probably due to atrophy of the gastric glands. "The impeded flow of blood from the atheromatous vessels," and "the want of energy in the glands," are alternately invoked; and we are finally left in a state of much doubt which of these two *hypothetical* conditions the writer is inclined to prefer.

The second sub-variety caused by "exhaustion of the cerebro-spinal nervous system" would seem to owe its position to the fact that mental shock occasionally stops or retards the digestive process. Would it not have been better to have enumerated these mental influences as sources of digestive trouble rather than to have given them a special form of indigestion to themselves? On this head we are treated with the remarkable statements which follow:—

"It will often be found that, whilst others may have forgotten some event which for the time produced universal sympathy, the effects are long seen by the physician, upon those immediately concerned; years may elapse, and the effect on the physical organism may still persist, and it is frequently found that a functional disturbance thus produced, is followed by organic change; this dyspepsia at first may be only functional, but it slowly gives place to the signs of cancerous disease of the stomach or liver; thus it was with the great Napoleon at St. Helena, and thus it has been with very many who have come under our own observation."—P. 121.

The above contribution to the etiology of cancer will, no doubt, be valued by those who are now so earnestly working at the pathology of malignant tumours. The third form of atonic dyspepsia is referred to "exhaustion of the nerve of organic life," and includes some varieties, often called sympathetic, and frequently met with in young people about the age of puberty.

Secondly, we have, "Dyspepsia from congestion, as observed in chronic disease of the lungs, heart, and bronchi, and also in chronic

disease of the liver." The consideration of these forms of secondary stomach disorders would, with more justice, find a place in a treatise devoted to the diseases of the special organs primarily affected. The practical nature of the present volume cannot justify their appearance here, for their treatment is of necessity so intimately connected with the therapeutics of diseases of the chest and liver that no brief account, in a work like the present, can be of much value. We think it a pity, moreover, to speak of them as forms of a malady on which too many practitioners have but vague notions; the confusion which must result in the use of terms will far outweigh any possible good. If functional affections of the stomach are ever to admit of scientific treatment, and if the term dyspepsia is ever to mean anything but a confused grouping of symptoms, we must begin at once to limit its application. The way of improvement will only be found in the plan of excluding all conditions which can be referred to organic change in the stomach or elsewhere.

Thirdly—"Inflammatory dyspepsia, whether arising from irritants, excesses, or improper diet." The chapter on this variety opens with some brief remarks on the secretion and action of the gastric juice; and further on we are told that inflammatory changes following the action of corrosive fluids are not included under this head. Idiopathic inflammation is alone meant. Considering the doubt that has from time to time existed concerning the occurrence of any such condition, we must question the advisability of the nomenclature. Accidental dyspepsia, the term used by the French authors, would have been much better. Three indications are spoken of as the chief signs of this form of dyspepsia; they are "tenderness at the scrobiculus cordis; irritability of the stomach and a desire for cold drinks" (p. 144), a group of symptoms which is met with in many cases where we have no right to assume the existence of inflammation. Dr. Habershon speaks of three sub-varieties of inflammatory dyspepsia, the first occurring in young children after unsuitable food; the second, arising from some accidental indiscretion in diet, or intemperance, is met with in adults; and the third results from the continued use of too copious or too rich a diet. The two first forms would certainly be better called *accidental*; while the third appears, from the description given at p. 149, to have little claim to the title *inflammatory*, but bears a striking resemblance to what our author calls, further on, hepatic dyspepsia of the chronic kind. We also find an acute form of

hepatic dyspepsia described, which, we think, has no just claim to a separate description.

Passing over the next chapter on "Rheumatic and Gouty Dyspepsia," we come to "Renal Dyspepsia," of which two kinds are mentioned—the one referable to the passage of a renal calculus, and the other to the uremia of Bright's disease. We need not dwell on the claims of these two forms to a prominent position in the classification in the functional diseases of the stomach; the first should certainly be classed as a sympathetic disorder, and the second has no claim to special consideration in a work on gastric diseases.

We find the seventh variety is called "Mechanical Dyspepsia;" but the account given of the various conditions interfering with the movements of the stomach is too meagre to be useful. A very instructive chapter might have been written on this subject, but we are sorry to have to say that the author has disappointed us. Under the head of "Nervous or Sympathetic Dyspepsia," we find the repetition of much that has been said in the preceding chapters, and we notice little addition to our previous knowledge. In speaking of the sympathetic disorder of the stomach which often precedes and accompanies phthisis, our author endeavours to throw discredit on recent views concerning the relation of the two conditions as antecedent and consequent. We give the passage, that our readers may judge of the force of Dr. Habershon's argument:—

"It may be argued by some, that the gastric altogether precedes the pulmonary mischief, and that in the weakness from the impaired power of digestion we have the cause of the low organized deposit in the cell structure of the lungs. If such were the case, the gastric disease would continue at least *pari passu* with that in the lung, and be detected after death; whereas we never find tubercular deposit or strumous ulceration in the stomach, and the utmost that can be noticed is the fatty degeneration or atrophy occasionally found in phthisical patients, although not exclusively in them."—P. 181-182.

"Fermentative Dyspepsia" next engages our attention; and in connexion with the development of gas in the intestinal tract we find a belief expressed in a view long since generally abandoned—the transudation of gases from the blood as one of the causes of flatulence. We are told that this view "is confirmed by the character of the gas itself, as consisting especially of nitrogen and carbonic acid gases, which are always present in venous blood."

This view is, indeed, more than doubtful; and we must remind our author that there is much more nitrogen in arterial than venous blood, as proved by Sczelkow, and that the researches of Ruge distinctly point to the derivation of nitrogen from the use of flesh as food. The development of CO_2 from starch and sugar is so obvious that it is scarcely necessary to seek its origin in the blood. If, however, our author simply means that gases in the stomach and gases in the blood may mutually interchange by osmosis, some support might be given to his views, but the composition of the gases found in the intestines does not require us to go to the blood to account for their occurrence.

The great source of flatulency is undoubtedly to be found in the fermentative changes which the food undergoes in consequence of modifications in the action of the intestinal juices. The practical proof of this is to be found in the striking results which follow, even in very bad cases, the limitation of the amount of starchy and saccharine food. We have seen some of the worst cases placed in comparative comfort when fed on albuminous diet and Blatchley's bran biscuits. In speaking of the treatment of that form of fermentation associated with the *sarcina ventriculi*, we notice the omission of a remedy—the *tr. ferri perchloridi*—which we have often found efficacious when all the ordinary remedies have failed.

Lastly, we have "Duodenal Dyspepsia," of which two kinds are mentioned—"the one arising from excessive irritability of the mucous membrane, the second from inflammatory congestion." Intestinal dyspepsia is too often ignored in our books and overlooked in practice. On this account our author's remarks may do much good by directing attention to the subject; we could wish, however, that a fuller account had been given.

The remaining chapters treat of *degeneration, ulceration, and cancerous disease* of the stomach. Perforating ulcers are divided into two classes:—1. Those "perforating without adhesion;" and, 2. Those "perforating when adhesions have taken place." This division is very unscientific, and we cannot think it useful, as it separates essentially similar pathological conditions on account of an accidental complication. Surely it would have been better to have avoided any classification here, and simply to have enumerated the situations of those ulcers which usually form adhesions.

There are other chapters—"On the Changes of Digestion at different Periods and Conditions of Life;" "On the General Sympathy of the Stomach in Disease;" "On the Symptoms of Disease

of the Stomach;" "On the General Treatment of Disease of the Stomach;" and "On the Remedies for Indigestion and their Abuse." We have no time or inclination to analyse these, but we have looked in vain for any new information. In a professedly practical work the portions relating to treatment ought to be the most valuable and the most exhaustive. We cannot say, however, that the work before us contains much matter, even on this point, to repay the reader for his trouble. The portions devoted to the treatment of the various disorders described, are not by any means complete as they might be. The directions given are often vague and unsatisfactory; scarcely any knotty point is settled for us, and no useful formulas are to be found by the busy practitioner. Throughout we find marks of haste, bad management of the subjects, and a great want of precise knowledge. The style, too, is often careless, and in places really bad; the frequent changes from the first person plural to the responsible "I" in succeeding sentences, tells us how hurriedly the work has been written. The author has not given any of the many cases on which his views are based. In this, we think, he has made a great mistake, as the value of any work which aims at being practical is always enhanced by the addition of cases which necessarily contain the most practical kind of information.

Dr. Leared's little book has already passed through so many editions that it must be well known to the majority of our readers. It is not an ambitious volume, but it is a useful one, and full of much information, told in a pleasant manner. After its perusal the need of some more solid intellectual food, the craving for some more positive knowledge may be felt, and stimulate the reader to seek it in some of the more elaborate works on this subject, such as those of the late Dr. Brinton, or the exhaustive treatises of the French school. Dr. Leared tells us that he has given much thought to his classification of the various forms of indigestion, and we can say of it that it is one of the best we know. It may be less complete than that of Guipon, but is more simple—no mean recommendation. Dyspepsia is divided, primarily, into accidental and habitual—the former including dyspepsia from excess of food; dyspepsia from too great variety of food; and lastly, that form of gastric trouble produced by constitutional peculiarities. The forms of habitual indigestion are slow digestion, acid dyspepsia, painful indigestion, and the varieties characterized by fetid eructations and mental disturbance.

The author's remarks on treatment will be found useful, especially the chapters on the hygienic and the dietetic measures suitable for the several varieties of what is too often an intractable malady. There are two appendices well worth reading, the first on "Experiments on the Cause of Heartburn;" and the second on "Flatulence and its Successful Treatment by a Novel Use of Charcoal." Dr. Leared deserves much credit for the introduction of the charcoal capsules, and we can bear testimony in their favour. This appendix is the chief addition in this new issue, and we regard it as not the least valuable part of the work. We are glad to find that the chapter on the physiology of digestion has been removed to the end of the book in this edition—a step which we hope is only preliminary to its final exit. The plate of the digestive tube, which disfigured the former editions by its obtrusive position, has now been withdrawn to greater privacy. This also we consider as matter for congratulation. The book is well got up, and creditable alike to the author and the publisher.

A Treatise on Military Surgery and Hygiene. By FRANK HASTINGS HAMILTON, M.D., late Lieutenant-Colonel; Medical Inspector, U.S.A., &c., &c. New York: Baillière Bros., 520, Broadway. London: H. Baillière, Regent-street. 1865.

THE introductory chapter of this work, on the peculiar duties of military surgeons, and the position which they ought to occupy, shows that on these points the surgeons of the United States Army, as of our own, have much difficulty in obtaining a just and liberal recognition of the degree of rank and amount of authority absolutely necessary to enable them to perform efficiently the various and important duties of their office.

Dr. Hamilton argues strongly, yet calmly, on the side of the military medical officers. He first vindicates their claim to equal rank with military executive or combatant officers, with whom they share all the hardships and many of the risks to life and limb in active service, with a supplement of labours and risks peculiarly their own, on the field and in hospitals, during intervals of marches and engagements, passed in comparative repose by their combatant brethren.

The time is at hand when such arguments will be no longer necessary, but until its advent they must be repeated and enforced

again and again by all who desire to see the military and naval medical services of this country established on a proper footing, decreed by the voice of the nation through Act of Parliament, and thereby secured against the insidious inroads of Horse Guards' Circulars, supplementing and modifying warrants to which the Royal sign manual has been found to be an insufficient protection.

In order to contribute our portion towards the furtherance of this desirable object, we make the following extract from Dr. Hamilton's work, with which we heartily agree:—

“The only remaining point to which we wish to call attention at this time is the amount of *authority* vested in the medical officers of the army, with a view to the consideration of the question whether it is sufficient for the purposes intended; and we may say at once that it is the almost unanimous opinion of the army surgeons, that it is not sufficient unless the medical officers have complete control of the medical department in the same manner, and to the same extent that the officers of the corps of engineers control their department. In this opinion the writer fully concurs.

“The objections to conferring authority upon medical officers are the same which have been urged against medical rank; and, in addition to these, it has been claimed that to divide or distribute authority is to destroy the unity and power of the army, and that it is essentially destructive of all military discipline. The first of these objections has already been sufficiently considered, and the second is very well disposed of by Dr. Tripler in a few words:—‘The dogma of the necessary alternate of commanding, or being commanded that has been the fruitful source of so many mischiefs, and is at the root of the difficulty of securing the efficient co-operation of the different professions that are now combined in the organization of the army, has had its practical refutation demonstrated in our service by the experience of almost half a century. The law forbids the exercise of command out of their corps to the officers of the engineers. Still they are not subject to the orders of their juniors in the line. They cannot command, nor are they commanded except by a superior; and what has been the result of this assumed military heresy? Let the world produce their superiors as an efficient and scientific corps! Their independence of all outside interference, and their being exclusively entrusted with the means of performing their own duties, have made them what they are, and the country has reaped the advantages of its wise legislation in regard to them. This is the only corps in the army that has any analogy with the medical as regards scientific acquirement, speciality of function, peculiarity of administration, and claims to inde-

pendence of action, because it is not at all understood or comprehended by any other department.’^a

“We conclude then that to the medical officers ought to be intrusted the complete control of the medical department, because upon the preservation of the health of the troops depends in a great measure the success of every expedition; because no others than medical men are by their education and habits qualified to perform this duty; because no one else is competent to decide upon the proper location of a hospital, its construction, ventilation, or general arrangement; no one else can determine what is necessary for the sick in the way of diet, clothing, medicines, &c.; no one else knows when rooms are overcrowded, and are in danger of becoming pestilential, or when patients can be removed with safety. In short, because officers of the executive department, from the entirely distinct nature of their pursuits, whatever they may believe to the contrary, do actually know as little of hygiene, medicine, and surgery as they do of engineering. Because, moreover, medical men are supposed to be qualified, they are appointed for the express purpose; and because without authority, they are unable to carry out their own views, and it is impossible, therefore, that the public service can receive the full benefit of their ability.”

Dr. Hamilton enforces his claims for the authority of military surgeons by contrasting the modes of administration of the medical departments in the French and British armies in the Crimea, and the results, we are happy to say, are in favour of the British system, the practical working of which admits—by sufferance, as it were—of the exercise of a considerable amount of authority in minor matters on the part of medical officers, but very different from the independent system of administration of the engineer department as established by usage and secured by authority.

Alluding to the system of military hospitals being placed under a military governor in immediate command, Dr. Hamilton says:—

“In our experience this has happened but once, and then its inconveniences were soon observed, and the officer of the line was promptly relieved.”

So far as this goes, American military surgeons are in advance of their brethren in the British service, but in other points they are in an inferior position, as Dr. Hamilton states that the military surgeon is—

^a Amer. Med. Gazette. Introduc. Lect. on Mil. Surgery. By Charles S. Tripler, M.D., Surgeon U.S.A., 1848.

“Not allowed to retain a soldier, whatever may be his condition, against the order of his superior officer of the line. A recent decision of a court-martial has settled this question definitively; one of the most valuable and highly accomplished officers of the U. S. Army having been sentenced to several months’ confinement to his post for refusing to permit a wounded soldier, upon whom a severe surgical operation had been made a few days before, and who still remained in a critical condition, to be removed under an order for his arrest, until the order had received the approval of the surgeon-general, or of his immediate representative, the medical director of the department.

“We are at a loss to conceive the propriety of the rule as decided by the court to which we have referred; nor do we think that any one can seriously claim for it either necessity, justice, or humanity.”

Chapter III., on the general hygiene of troops, contains much useful information, and many valuable hints, illustrated by striking examples, particularly on the necessity of a proper supply of vegetables, and on the important indications as to the general health of the troops, afforded by the occurrence of even one case of scurvy:—

“To those who are not familiar with the numerous and complicated duties which devolve upon officers commanding large armies, it may seem a matter of surprise that such facts as we have stated do not come to their knowledge, and that the remedies are not promptly applied; but the truth is, that whatever information they possess must be obtained from subordinate officers, and, with the exception of the medical officers, there are very few of these subordinate officers who understand what are the usual results of abstinence from vegetable food. Officers in the immediate command of regiments and of companies often, when the inquiry is directly made, acknowledge their want of supplies; but they have seldom evinced much interest in the matter. So long as men are not dying in considerable numbers directly from scurvy, they manifest no alarm, for they have never been made to understand that, to some extent, all men must be scorbutic who have been excluded such a length of time from vegetables; that the rheumatic pains, the bloody discharges from the bowels, the tender gums, the short breath, irregular action of the heart, the obstinate ophthalmia, the sudden deaths of patients suffering under diarrhea, the speedy exhaustion of men in the trenches and on the march, were all the results of impoverished blood; that the frequency, rapidity, and fatality of typhoid pneumonia were due, in a great measure, to the same cause; that men who were slightly scorbutic often presented an appearance of robust health, especially when their bloated features were bronzed by exposure to the sun and air. Even the surgeons are

not always fully awake to the danger which is upon them when *one* well-marked case of scorbutus is brought to their notice. It is not often we find more than five or ten striking examples of scurvy in one regiment at a time ; but if there is but one it ought to furnish a substantial ground of suspicion that the physical condition of the whole, or nearly the whole, of the command is impaired."

At one time, while the army of the Cumberland was suffering from want of potatoes—

"The medical director, Surgeon Perin, found, at Murfreesboro, 1,500 barrels lying in the commissary store rooms, not one barrel of which, we believe, had any ventilation, and the contents of most of which, when we came to open them, were more or less destroyed. They were awaiting an order from the commanding general to issue them, but the Commissary had failed to notify the general that they were on hand. The medical director, Dr. Perin, promptly informed the general, and an order was at once obtained for their issue.

"Such facts as these do not always indicate inefficiency, perhaps, on the part of the government officers, but rather that the multiplicity of their duties renders it difficult, if not impossible, sometimes to give the necessary attention to all the minor details."

Even such an emergency as that above detailed did not confer upon the medical director any authorized right to order the immediate issue of supplies so essential to the health of the troops, and actually rotting in store while awaiting notification of their existence from the commissary to the general; but he had first to inform the general, who then issued the necessary order. Dr. Hamilton assigns such an occurrence to its probably true cause—viz., "the multiplicity of duties of commanding officers," and in doing so he adds another powerful argument for conferring upon medical officers rank and authority qualifying them to undertake their share of duties and responsibilities, and so relieve the military authorities of the multiplicity of duties which "renders it difficult, if not impossible to give the necessary attention to all the minor details."

Dr. Hamilton's observations in Section II. of this chapter on "Cleanliness and Camp Police" are forcible and instructive.

In Chapter IV. he describes "Bivouac Accommodation of Troops in Tents, Barracks, Billets, Huts, &c."

Chapter V., on hospitals, contains much interesting and useful information, with ground plans and bird's-eye sketches of some of the immense hospitals which were established during the late American

war. He advocates the system of one-storied pavilions elevated three or four feet from the ground, for the following reasons:—

“1st. They are more easily ventilated, and this consideration takes precedence of all others. Its importance can never be over-estimated. The best place to treat a sick or wounded man is always, other things being equal, where he can get the most and purest air. When this doctrine is thoroughly understood, hospitals will cease to be the graves of soldiers, and never until then.

“2nd. They are much more easy of administration.

“3rd. Such of the patients as are able to walk can pass in and out with less fatigue. In lofty buildings feeble patients, and those who are lame, are, in many cases, as effectually excluded from out-door exercise as if they were bed-ridden.”

“The ward (he says) should be of an oblong shape. The width should be twenty-five feet, which will allow seven feet six inches for each bed—the beds being nine inches from the wall—and eight and a-half feet for the passage way. The length must depend upon the number of beds it is intended to receive. In a permanent hospital each bed should be allowed an average of seven feet in the direction of the length of the ward. Fifty is the maximum of beds—twenty-five on each side. This number of beds would require, therefore, 175 feet. The height of the walls should be fourteen feet, and the roof high pitched. This will give 1,205 cubic feet of air to each patient, which is the minimum allowance for any ward intended for permanent use.”

In such a ward it appears to us that the superficial space to each patient, viz., 87·5 feet, is deficient: and the amount of cubic accommodation, viz., 1,205 feet to each patient, exceeds, by five feet only, the minimum space allotted in the British medical regulations for permanent military hospitals in temperate climates—1,500 cubic feet being the allowance in tropical climates, and which, it occurs to us, would certainly be required during the Summer months at any rate of the American climate.

There is also given a ground plan for a ward of twenty beds (from Hammond), in which the position of the bath-rooms and water closets, opening off a passage or verandah at one end, although not directly communicating with the ward, appears to us to be very objectionable; such apartments ought invariably to be separate from the wards, but connected with them by a covered way.

In the M'Dougall General Hospital, at Fort Schuyler, N. S., for 1,660 patients, the pavilions are arranged tangential to an oblong

corridor, which is furnished with a railway, by which the food, medicines, &c., are conveyed. Each ward contains 48 beds, except those at the end near the kitchen, which are but two-thirds the size of the others.

"The administrative buildings are at one end, and the kitchen, laundry, &c., at the opposite. The interior contains a chapel, operating room—connected with the wards by railway—a guard-house, and a fountain. Water-closets and bath-rooms are attached to each pavilion at their further extremities, and entirely outside."

The site—

"Is upon a narrow peninsula, projecting from the main land into the East River, which, at high tide, is completely surrounded by salt water. This hospital was planned and organized by Assistant-Surgeon Robert Bartholomew, U.S.A., and is now under the excellent management of Warren Webster, Assistant-Surgeon, U.S.A. In point of location, M'Dougall General Hospital cannot be excelled; and in respect to its interior arrangements, we have not seen it surpassed by any hospital in the United States.

"The Mower United States General Hospital, at Chestnut Hill, near Philadelphia, is composed of fifty pavilions, projecting from a corridor of a flattened ellipsoidal form. It is said to be 'the largest institution in the world devoted to the reception of the sick and wounded alone,' containing 2,820 beds for patients, and 500 for officers and attendants.

"The Lincoln Hospital at Washington, with several others in different parts of the United States, has a corridor in the form of the letter V, the pavilions being placed tangential to the corridor upon its outside, *en échelon*. The administrative building is at the apex, and the kitchen, laundry, &c., are in the centre of the inclosure."

In some of the hospitals which he describes—for instance, the Hammond General Hospital—"the kitchen, laundry, and dead-house are in the centre of the circular area," an arrangement to which there appear many obvious objections.

He considers large well-made hospital tents to be the best military hospitals for general use. He mentions the various kinds of buildings, public and private, which were seized upon and employed as temporary hospitals.

"At one time the order was issued to occupy the President's mansion, which order would have been promptly obeyed and cheerfully acceded to by the President had it not seemed to be unnecessary, and had not the order been countermanded on the same day."

He says that except in cases of pressing necessity it is certain that, in a sanitary point of view, it would be better if such buildings were never used at all.

"Men taken into those hospitals with diarrhea, or some other simple ailment, have often been attacked with fever; patients recovering from fever have died of erysipelas; wounds which were nearly healed have suddenly been invaded by erysipelas or hospital gangrene, or pyemia has supervened. In short, there is in most of these buildings a long file of terrible maladies which are born of impure air, and through which all who pass out of their doors must run; and fortunate, indeed, is the man who, having once entered, escapes with his life."

In describing tents for hospital purposes, and advocating their more general use, he says:—

"One single fact which we shall state ought to settle for ever the value of tents for hospital purposes. While we have seen many hundreds of cases of hospital gangrene which have originated in buildings temporarily occupied, in transports, &c., even in well constructed pavilions, we have never seen a case which originated in a tent, nor can we call to mind a case which was not at once benefited, if not speedily cured, by a transfer to a tent. Upon this point the testimony of all army surgeons with whom we have conversed is the same."

From Chapter VI., on "Preparations for the Field," we extract the following passage for the envious admiration of military surgeons in the British service; and let us hope also for imitation, at no very remote time, by our own Government:—

"In the United States army each regimental surgeon is supplied by the Government with one general operating case, including instruments for trephining and amputating, and one pocket case. Surgeons in charge of general hospitals are allowed additional sets of instruments, which may generally be obtained upon requisition."

In our army surgeons must provide capital cases of instruments, "their own property," at an expense of about £25; and assistant-surgeons must provide their own pocket cases!

Chapter VIII., on the conveyance of sick and wounded soldiers, is chiefly interesting from containing plans and sections of the "railroad ambulances" used with most advantageous results during the late American war.

Having devoted so much space and time to the introductory

matter of this work, the less remains for the purely practical part; this, however, is of the less consequence, as the work does not contain much that is actually new on surgical matters. There are many valuable hints scattered through it on the various forms of appliances found useful in treatment of the injuries received in war, illustrated by woodcuts and a short account of particular cases, which, besides their own intrinsic value as cases, possess the advantage of being highly suggestive to surgeons either in the military service or in country districts remote from metropolitan means and appliances, as showing how much can be effected by the ingenious and judicious application of means which, at first sight, may appear "rough and ready," but are so much the more suitable to the emergencies of the case.

The author devotes several pages to the treatment of gun-shot wounds by irrigation with cool or tepid water, the temperature being graduated from tepid to cold, according to the intensity of inflammatory action, care being taken that the temperature be that which is most agreeable and soothing to the patient—this being the true index as to whether the treatment is salutary or otherwise; he cautions against the too prolonged use of very cold water, and enforces his precepts by quotations from a *Treatise on the Employment of Water in Surgery*, by M. Alphonso Amussat, of Paris, published in 1851, and translated into English by Dr. Hamilton in the same year. We extract one paragraph:—

"'It is well known,' says Sanson, 'that cold applications may cease to be useful, and may even become hurtful, by rendering the flesh œdematous and pale, and causing it to become irritable when suppuration is established in the wounds. Sometimes, also, they entirely prevent the development of inflammation to such a degree as that at the end of ten or fifteen days the wound is nearly in the same condition as at the moment of the accident.'"

The chapter on gun-shot wounds of the abdomen is particularly interesting from the number of remarkable cases of recovery from such injuries contained in it. Of recovery from gun-shot wounds in the inguinal region, which his experience shows to be the least dangerous position for such injuries, he says:—

"Indeed so frequently do the viscera escape injury, when the ball has passed through the inguinal regions, we cannot but conclude that in very many of the examples the missile has made its trajet below and outside of the reflections of the peritoneum."

Wounds of the hypochondriac regions furnish the greatest number of fatal results, on account of the more fixed nature of the viscera contained therein.

“In the remaining regions the serious internal lesions and the fatality of the wounds may be arranged upon a descending scale in nearly the following order:—Epigastric region, umbilical, right and left lumbar, hypogastric, right and left inguinal.”

Gun-shot injuries of the spine are alluded to in this chapter, but only as regards their possible connexion with wounds of the abdomen from the transverse and oblique processes being driven into the abdominal cavity.

“But it is seldom that these fragments are driven fairly into the abdominal cavity. The numerous strong ligamentous and tendinous attachments which cover so completely nearly all the surfaces of both the bodies of the vertebræ and their processes, render their complete detachment very difficult if not impossible; while the depth of the muscular coverings upon their lateral and anterior surfaces still further protects the internal viscera from the projecting points of the displaced spicula. There does not exist, therefore, the same necessity for extracting these fragments as in some other cases which we shall mention.

“When the track of the wound is through the body of the vertebræ, in most cases the spinal marrow or its immediate coverings have been seriously injured, and surgical interference would prove worse than useless; or the large blood vessels lying in front have been lacerated, and death occurs as speedily as if the heart itself had been opened.

. . . . “In case, however, one of the transverse processes has been broken and sent inwards, although it is not likely to have penetrated the cavity of the abdomen—it yet may give rise to serious results by the formation of an abscess in the bellies of the psoas muscles, which abscess may eventually make its way along between their fibres towards the groin, or it may empty itself into the loose areolar tissue outside of the peritoneum. These results have occasionally happened, and it is worthy of consideration whether in such a case it may not be proper to attempt the removal of the broken process at an early moment. This operation will be rendered the less difficult from the fact that the fragment will probably not be beyond the reach of the forceps, and if it cannot be extracted, it may at least be in some manner replaced, so that its extremity shall no longer press upon and goad the muscular tissues. The danger of the operation will be the less, also, for the reason that the operation is not so likely here to penetrate the cavity of the peritoneum.

“If such an operation should be thought justifiable, the incision ought

to be made at a right angle with the axis of the body across the fibres of the lumbar muscles, and directly upon the transverse process, avoiding as much as possible the space between the adjacent processes in which situation are found the principal muscular branches of the lumbar arteries."

It will be observed that he pronounces surgical interference in case of gunshot injury of the spinal marrow or its immediate coverings to be "worse than useless." On this point, however, some of the military readers of this journal, keeping in mind the operations performed and recorded by Dr. Robert M'Donnel and Dr. Samuel Gordon of this city may be inclined to differ with him, and we hope that when occasion arises they may put the question to the proof.

The author opposes, and, we think, on just grounds, the recommendation of Lagouest, to make digital exploration for the purpose of ascertaining whether a ball has penetrated an intestine, but we have already made so many extracts, that we must leave our readers to study this chapter for themselves, and we can safely promise them both benefit and interest in doing so.

He narrates several cases of the spontaneous cure of artificial anus, consequent on gunshot and other perforating or penetrating wounds of the belly, and says:—

"Yet we must confess that experience has greatly modified our original views as to the urgency of the demand for surgical interference of any kind. It is our present opinion that the majority of these cases will get well spontaneously, and an inconsiderable proportion very speedily, if simply allowed to take their own course; and we believe, therefore, that in all cases, it is best to defer surgical interference for a period of several months at least."

On the subject of amputations of the lower extremity, he says:—"Amputation through the knee-joint is not particularly objectionable. Baudens says that his experience in the Crimea enables him to affirm that disarticulation of the knee ought always to be preferred to amputation of the thigh. Of eighty-six cases, brought together in the November No., 1852, of the *N. Y. Jour. Med.*, by Prof. Stephen Smith, forty-nine resulted in recovery, and thirty-seven died, giving forty-three per cent. as the ratio of mortality."

On this subject a recent short paper by Mr. Longmore, in *The British Medical Journal* of 5th January, 1867, shows that the official return of the United States army^a, "gives a per centage of

^a Circular No. 6, Surgeon-General's Office, Washington, Nov. 1, page 47.

mortality in primary amputations at the knee-joint of only 34.9." Mr. Longmore adds:—"I have a very strong hope that in any future war amputation at the knee-joint will be performed more frequently by surgeons in our own army, with results at least as favourable as those recorded in the United States Army Reports."

The mode of operation advocated by Mr. Longmore is that devised by Mr. Carden, of Worcester, and strongly supported by Mr. Syme, in a short contribution to the *Edinburgh Medical Journal* for April, 1866. Mr. Syme says:—

Mr. Carden "made a semi-lunar incision in front from side to side, with its convexity nearly over the tuberosity of the tibia, and reflected the flap of skin thus formed, so as to expose the muscles above the patella where what remained of the limb was divided transversely. The popliteal artery, and any of the small branches that required ligature having been tied, the ample covering of integument was brought down to its place, when, being secured by sutures, it lay without any tendency to retraction, or requiring the restraint of bandages, while the dependent opening afforded a free vent for the discharge of matter. No trouble was experienced in the after treatment, and the stump proved eminently serviceable, since the skin over the bone, instead of becoming thinner, acquired additional thickness, so that the patient could rest upon it, just as they do after amputation at the ankle."

The author, at page 472, describes his method of amputation at the knee-joint by a circular incision, three or four inches below the knee, terminating behind by a vertical incision upwards, two or three inches in length, and then by traction and dissection the ligamentum patellæ is exposed and severed; the capsule, lateral ligaments and hamstrings are cut; the crucial ligaments divided—leaving nothing further to be severed but the posterior ligaments of the joint, and that small portion of structure in the popliteal space which contains the popliteal vessels.

"The surgeon will now seize these tissues between his thumb and fore finger, and divide them a little lower down.

"In some cases, in operating by this method, we do not think it necessary to employ a tourniquet."

"In case the flap is not found to be sufficient, the patella may be removed to prevent retraction of the flaps through the action of the quadriceps femoris; or, more or less of the condyles of the femur may be sawed off. If the condyles are removed great care must be taken to tie the articular arteries above the joint, or a troublesome secondary hemorrhage may ensue."

Amputation at the hip-joint for gunshot injury was performed "five times during the present war, and perhaps oftener. In two instances the operation has been successful," in which the American surgeons were more fortunate than ours in the Crimea, where every case, twenty-three in number, terminated fatally.

In the chapter on exsections of joints, in describing the necessary instruments, he gives wood cuts of several, and among others of the saw which we in Ireland generally know as Butcher's saw, but which he designates as a "Symanowsky saw."

The chapter on anesthetics is worthy of study and consideration. The author is inclined to attribute certain serious consequences to their use, such as the less frequent healing by first intention, the greater frequency of pyemia, &c., &c. He quotes several authorities to the same effect, but admits, nevertheless, that he always uses them, and says that—

"The apparent inconsistency between our own theory and practice is explained by the fact that surgeons generally reaffirm the sentiments of Mr. Skey, and declare that these drugs are 'innocuous agents of good,' consequently patients will no longer submit to operations without them."

There is much more interesting and instructive matter in this work, as we hope will be apparent to the reader, from the nature of the numerous extracts which we have made, and we can confidently recommend the book for perusal.

Entozoa; an Introduction to the Study of Helminthology, with Reference, more particularly, to the Internal Parasites of Man. By T. SPENCER COBBOLD, M.D., F.R.S. London: Groombridge and Sons. 1864.

Tape Worms (Human Entozoa) their Sources, Nature, and Treatment. By T. S. COBBOLD, M.D., F.R.S. London: Longmans. 1866. Fcap., 8vo, pp. 83.

WE have been somewhat tardy in noticing Dr. Cobbold's book on entozoa. But as it is by no means a work of ephemeral interest, we think it desirable to bring it even yet before the notice of our readers, and to give them the benefit of our opinion as to its merits. It treats, in three parts, of Systematic Helminthology, of Special Helminthology, and of Spurious Helminthology. The first part

gives us a general account of the habits, structure, development, affinities, distribution, and classification of the entozoa, and their allies. The classification of these animals is naturally considered first, and is, perhaps, the most unsatisfactory portion of Dr. Cobbold's work. With a certain quiet quaintness, which is quite refreshing, the author remarks:—"The entozoa or helminths display a considerable variety of character." And truly, there is a great difference between a Tænioid and a Planarian worm. But for all this, these parasites must not be treated like ordinary beasts. They must not be made amenable to the common rules of classification, and grouped into orders and families, according to their structure and affinities. For

"The happiest, and perhaps, after all, the most truly philosophic way of studying the entozoa is to regard them as a peculiar *fauna*, destined to occupy an equally peculiar territory. That territory is the widespread domain of the interior of the bodies of man and animals. Each animal or 'host' may be regarded as a continent, and each part or viscus of his body may be noted as a district. Each district has its special attractions for particular parasitic forms; yet, at the same time, neither the district nor the continent are suitable localities as a permanent resting-place for the invader. None of the internal parasites 'continue in one stay;' all have a tendency to roam; migration is the very soul of their prosperity; change of residence the *sine quâ non* of their existence, whilst a blockade in the interior, prolonged beyond the proper period, terminates only in cretification and death."

While, however, such a plan may be very convenient, from a medical student point of view, the author does not hesitate to give us on the next page a somewhat less commonplace and more rational grouping of these entozoa, not based on the continents and islands within which they live, but on their general structure and affinities. Some are solid or parenchymatous helminths. These he forms into a Sub-class I., and applies to it Professor Owen's name, Sterelmintha. Others are hollow worms. These form Sub-class II., and equal the Cœlelmintha of Owen. Others, again, have no intestinal canal, and form Sub-class III., called Anenterelmintha by the author. These sub-classes would contain the following orders:—

Sub-class	I.,	{	<i>Turbellaria,</i>	.	.	.	Planaria.
			<i>Trematoda,</i>	.	.	.	Fluke.
	II.,		<i>Nematoda,</i>	.	.	.	Threadworms.
	III.,	{	<i>Acanthocephala,</i>	.	.	.	Echinorhynchus.
			<i>Cestoda,</i>	.	.	.	Tapeworm.

The pages of a medical journal are scarcely the proper place to discuss a scheme of zoological classification, otherwise we should be tempted to discuss the necessity for the existence of any of these sub-classes; to doubt the propriety of connecting the turbellaria with the trematoda, and to surmise that recent researches into the anatomy of the acanthocephala do not confirm Dr. Cobbold's statement, "that it is a very erroneous notion that these worms are furnished with a digestive apparatus."

The author proceeds to give a slight sketch of the order Turbellaria, dividing it into two families, Planariidæ and Nemertidæ. He gives a list of the more remarkable genera, forgetting, however, to give Quatrefages his proper place in the list of those who have studied the habits of this latter family. This order contains no parasitic forms. The order of the Trematoda is divided into five families—Monostomidæ, Distomidæ, Tristomidæ, Polystomidæ, and Gyrodactylidæ. An epitome of Dr. Pagenstecher's researches into the development of the Trematodes is given in this chapter; and several genera, not found as human parasites, are briefly described.

The Nematoda are divided into eight families—the Anguillulidæ, Gordiidæ, Oxyuridæ, Filaridæ, Cheiracanthidæ, Ascaridæ, Strongylidæ, and Cucullanidæ. In this order, some forms are found which bear an external resemblance to the common earth-worm, but differ from this annelid in very many important details; the majority are of small size, varying from a few lines to two or three inches in length; but some, as the *Eustrongylus gigas*, grow to a length of several feet. Of the order Acanthocephala, but one family, containing a single genus, is described—Echinorhynchidæ. Since the publication of Dr. Cobbold's work, however, a very remarkable new genus has been described by Lindeman,^a as found inhabiting the intestines of owls at St. Petersburg; and Lespes^b has added a good deal to our knowledge of their anatomy.

The Cestoda is the last order treated of. This is divided into three families—Tæniadæ, Bothriocephalidæ, and Tetrarhynchidæ.

The second portion of this work treats of the anatomical peculiarities, origin, mode of development, and propagation of the Entozoa infesting man; with a particular account of the injurious effects they produce; including a brief notice of the remedies employed in medical practice. The first three chapters contain an account of the Trematoda. The following species of which are

^a Bulletin Soc. Nat. de Moscow. 1865. Pp. 484.

^b Journal de l'Anatomie. 1864.

considered as human parasites:—*Fasciola hepatica*, Lin.; *Distoma lanceolatum*, Mehlis; *D. ophthalmobium*, Diesing; *D. crassum*, Busk; *D. heterophyes*, Siebold; *Bilharzia hematobia*, Cobbold; *Tetrahystoma venale*, Delle Chiaje; *Hexathyridium pingucicola*, Treutler; and *H. venarum*, Treutler. Chapters V. to X. treat of the Cestoid worms. Of which seven species of *Tænia* and two of *Bothriocephalus* are described. *T. solium*, Lin.; *T. mediocanellata*, Küchen; *T. acanthotrias*, Wein; *T. flavopuncta*, Wein; *T. nana*, Siebold; *T. elliptica*, Batsch; *T. marginata*, Batsch; and *T. echinococcus*, Siebold; *B. latus*, Brem.; and *B. cordatus*, Leuck.

The Nematodæ are described in the remaining, four chapters of this special part. The species noted are—*Ascaris lumbricoides*, Lin. *A. mystax*, Rudolph; *Filaria lentis*, Diesing; *F. trachealis*, Cobbold; *Trichina spiralis*, Owen; *Strongylus bronchialis*, Cobbold; *Eustrongylus gigas*, Diesing; *Sclerostoma duodenale*, Cobbold; *Oxyuris vermicularis*, Brem.; *Dracunculus medinensis*, Cobbold; and *D. loa*, Cobbold; making thirty-one species in all to which it would appear the human species is liable.

The part devoted to spurious helminthology is added in order to render the work more useful and complete, but it treats of a miscellaneous assemblage of all kinds of animal and vegetable substances, or organisms, which have been from time to time erroneously described as belonging to the entozoa, as well as of some undoubted annulose animals, which have been, perhaps, falsely believed to be parasitic on man—such as *Pentastoma tænioides*.

Appended to this portion of Dr. Cobbold's work is a list of all the more important works, memoirs, and communications on the subject of internal parasites, which have appeared in the English language during the last half century. While the painstaking student will find in Leukart's *Menschlichen Parasiten*, which is now approaching completion, a more exhaustive, and we fancy a more comprehensive account of the human entozoa; yet the English reader, and more especially the English reading medical man, will find in Dr. Cobbold's work a fair, useful, and practical exposition of the subject, and one that by the beauty of its type and paper, and the brilliancy of its illustrations, throws the above alluded to production of the Leipsig press altogether into the shade.

The second work on our list is small in size, and essentially practical in its character. It is limited to the consideration of the tape worms, and will be found useful by those who may not wish to study the subject as given fully in the larger work.

Du Suicide et de la Folie Suicide. Par A. BRIERRE DE BOISMONT, Docteur en Médecine. Seconde Edition. 1865. Pp. 763, 8vo Paris: Germer Baillière.

On Suicide and Suicidal Mania. By A. BRIERRE DE BOISMONT, Doctor of Medicine. Second Edition.

WE have read with more than ordinary interest this work on suicide, coming as it does from the pen of the elegant author of the *History of Hallucinations*, we were fully prepared to find plenty of important materials, as well as interesting incidents, in its pages; neither have we been disappointed, and we now earnestly recommend its careful perusal, not only to the psychologist and the physician, but also to the statesman and legislator, as well as to the priest and the instructor of youth. It is impossible, in the short space allotted to a review, to give a satisfactory analysis of a work which, through upwards of seven hundred pages, never allows the readers, interest to flag for a moment, and where even the dry columns of numbers and statistical proportions are so blended with the most interesting details, that their monotony is unheeded and their dreariness unperceived. If Brierre de Boismont were not an authority to be relied on we might, perhaps, look upon much of his book and its statements as the result of his fervid imagination, and treat the entire work as a gigantic romance; it would seem too terrible to believe, that in France alone, since the commencement of the present century, upwards of 300,000 individuals have perished by their own hands; but it is no romance, no work of fiction; the police records and the documents of the "Archives du Parquet" are the foundation of this work, and twenty years was the time devoted to its compilation.

The materials out of which this book is elaborated are comprised within a space of ten years, extending from 1834 to 1843, and afford a basis of 4,595 suicides about which reliable information was obtained. Of these 4,595 suicides, little more than one-third were females, viz., 1,380, and 44 of the entire had committed self-destruction before the age of eighteen, 2 at the age of ten years, 9 at thirteen years, 12 at fourteen, 21 at fifteen, and 33 at sixteen. This startling announcement of suicide at so early an age could scarcely be credited, were it not that we unfortunately have even more melancholy statistics in the work of M. Durand Fardel, in which he gives 1 case of suicide in a child under five years of age, 2 under

nine, 2 under ten, 6 under twelve, 7 under thirteen, and 2 under fourteen years of age; all occurring in France, within a period of 10 years, 1835 to 1844.

“The idea of suicide is more frequent among children brought up in cities,” says Brierre de Boismont, “and is caused by the bad education they receive.” He blames the evil literature of the day, the low theatres, and the newspaper reports of suicide. Passing to the consideration of the age at which suicides are most prevalent, he finds that in Paris the most fertile age is from twenty to thirty, while in the provinces the greater number of suicides occur between forty and fifty.

The following is a tabular view of the ages and sexes of the 4,595 cases which are analysed in this work, and which all occurred in Paris in the course of ten years:—

Ages	Men	Women	Total
From 10 to 20	166	122	288
20 30	676	343	1,019
30 40	681	254	935
40 50	654	241	895
50 60	500	191	691
60 70	310	136	446
70 80	111	57	162
80 90	25	3	28
90 91	2	0	2
Age unknown,	90	39	129
	<hr/>	<hr/>	<hr/>
	3,215	1,380	4,595

According to this table the greatest number of suicides will be found between the ages of twenty and fifty. Though even advanced age is not free from the taint of self-destruction, as we find 28 cases committed between the ages of eighty and ninety, contrary to the asserted opinion of Esquirol. The next statistics we meet with are in reference to marriage, and here we find an additional recommendation of that happy state, should an additional one be required, in the fact that out of the 4,595 suicides tabulated, there were 1,501 bachelors to 1,129 married men, 579 spinisters to 515 matrons, 210 widowers to 211 widows. The next statistical table has reference to conditions of life, and is so remarkable as to deserve to be reproduced without mutilation:—

Wealthy,	126	} 697
In easy circumstances,	571	
Earning a livelihood,	2,000	2,000
Not in good circumstances,	256	} 1,588
Ruined,	159	
Poor,	709	
Wretchedly poor,	464	
Circumstances unknown,	310	310
	<hr/>	<hr/>
	4,595	4,595

If the above number be roughly divided into two categories—poor and not poor—we find 2,697 suicides among the latter for 1,898 among the former, which one would have been scarcely prepared to expect. The next table is too long to give in extenso, and too important to curtail; it has reference to the cause which induced the several suicides, and we shall content ourselves with noting them:—About one-eighth of the entire were caused by drunkenness, which, next to insanity, was the most fertile cause. The consideration of the different classes of causes which had led to the suicides of these 4,595 individuals, occupies 232 pages, and is full of interesting anecdotes; and so far as these anecdotes have reference to French incidents and French life, we read them with pleasure, trusting in the accuracy of the French police reports, which are the foundation of the work itself; but when the author travels away and has no longer the sober matter of fact relations of the “Commissaire de Police,” we must, we fear, receive *cum grano* both the incidents, the *so called* facts, and naturally the deductions; for instance, he copies from a London penny-a-liner that one Rogestone ate, in ten years, a fortune of £150,000, literally gormandized away that sum, and that finally, being reduced to having nothing else but a shirt, an old battered hat, and one guinea, he spent the latter in treating himself to a woodcock superlatively well cooked, which having eaten with every relish, he allowed himself two hours of quiet rest to digest it, and then threw himself into the Thames from Westminster-bridge, where he might have been rescued had it not been for the gambling propensities of some gentlemen on the bridge, who were making bets on whether the man would be drowned or not! Now every foreigner who reads this book will firmly believe every word of this rich canard. At p. 284 the medical jurist will read with interest the detailed account of the different sensations and sufferings of an individual who committed

suicide by a proceeding nationally French, viz., by the fumes of lighted charcoal, and is all the more interesting as it is drawn out by an educated person; this form of suicide is very uncommon with us, while in Paris it is the most usually adopted, and far exceeds every other form, as will be seen at p. 563, where it will be found that of 4,595 suicides, 1,432 were caused by the fumes of lighted charcoal.

The third chapter is entirely devoted to the consideration of maniacal suicide, and is very interesting, probably all the more so from having been written in a country where "temporary insanity" is never adduced as a cause of suicide except such perverted state of the faculties is clearly proved to have existed previously or at the time of suicide. The fourth chapter is devoted to the nature and metaphysics of suicide; it is a chapter, that to review conscientiously, should be copied out in full; it is full of the most interesting anecdotes, which we must only hope are reliable, and also replete with profound philosophical reasonings. The fifth chapter treats of suicide in its relations to civilization; it is a most interesting review of the suicidal tendency in old age, from the remotest antiquity to the present day, and will well repay the reader; in it, at p. 502, will be found an interesting statistical table, showing the number of suicides per million of inhabitants in the several countries in Europe; and whereas some years ago it was supposed in Europe that the English were the most suicidal of all nations, this table shows, to our honour, that while in Denmark suicides are 280 per 1,000,000, in Great Britain they are only 69. The following chapters treat of the means to be employed in endeavouring to modify or diminish the tendency to suicide, especially to inherited tendency; it is an interesting subject, and treating as it does of education, marriage, consanguinity, &c., &c., it branches out into some of the most interesting physiological and metaphysical discussions; but here again we must caution our readers against being carried away by this fascinating writer, as we several times have found him making the most laughable blunders when travelling out of his strictly legitimate course—the consideration of suicide, as based on the 4,595 cases furnished by the "Prefecture de Police." The following may serve as an example and a caution, and will be found at p. 587. For shortness we shall paraphrase it:—About thirty years ago Hebert (*sic.*), Bishop of Calcutta, foresaw the dangers which the mother country would some day encounter, from the constantly increasing number

of half-castes in India, whose active passions and turbulent dispositions, even so long ago, caused him much anxious apprehensions; and, as Dr. Godineau says, in an article on the temperament of the Hindoos, while they (the Hindoos) have ever remained the same as in the days of Alexander the Great, willing to submit to every form of slavery, the Mussulmans, who have arisen from the intermarriage of the Hindoos with the nations descended from the plateaux of Ireland, alone present the attributes of vigour and health, &c., &c., &c. We confess that when we read this passage we rubbed our eyes, took the book closer to the light, and tried to make sense of it, but unfortunately the nonsense is too plain, and we regret to find that Brierre de Boismont knows nothing of ethnology when he publishes as a fact that the Mahometan races of India are descended from the intermarriage of the Catholic Irish with the Pagan Hindoos; and knows about as much of geography when he speaks of the "Table lands of Ireland," and their inhabitants.

Syphilitic Affections of the Nervous System, and a Case of Symmetrical Atrophy, with other Contributions to the Pathology of the Spinal Marrow. By THOS. READE, M.B., T.C.D., L.R.C.S.I. London: Churchill. 1867. Post 8vo, pp. 111.

THIS is a reprint of papers originally published in this Journal, with some additional notes and cases. In the first paper, published so long ago as 1851, Dr. Reade establishes, in opposition to the dogmas of Hunter and Sir A. Cooper, the liability of the nervous system to syphilitic affections, and by the relation of several well-marked cases in this and subsequent papers, he proves the correctness of his opinion. The vein thus opened by Dr. Reade has since attracted numerous workers, but we do not know that much has been added to the accuracy of the information presented to us by Dr. Reade in the first instance.

As the papers originally appeared in our own pages, it seems unnecessary to present our readers with any analysis of them; but we cannot avoid congratulating Dr. Reade on now finding his views, which at first met with opposition, so universally accepted by our best and most active pathologists.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS.

THE Society met on the 22nd May, to consider the late epidemic, which some have named "Malignant Purpuric Fever," but considered by others to be "Cerebro-Spinal Arachnitis."

The President, Dr. STOKES, in the Chair.

He declared the order in which the various cases were to be brought forward, which had been determined by ballot; and called upon the Honorary Secretary, who then read the following communication by Surgeon-Major Cogan, 2nd Battalion, 2nd Regiment:—

The following are some brief notes of cases of a disease (supposed to be what is now called "Black Death") that came under my observation lately, but I cannot say if I am justified in giving it such a nomenclature, as, in all my experience of epidemics, I have never met with any disease presenting appearances or symptoms similar to what I shall now briefly state.

In order to arrive at some conclusion as to the origin of the disease and to its making its appearance in this barracks, I shall first commence by stating that part of the regiment was out on duty with the Thurles Flying Column, and when in Thurles, in the beginning of April last, two men of the regiment were attacked with typhus fever; one of them died in twenty-seven hours, and it was reported to me by some of his comrades that he was covered all over with purple spots when he died. The other man was attacked at the same time, and has since recovered, but, as he has not yet returned to his regiment, I cannot say anything more about him.

The Flying Column about this time was broken up, and the detachment marched from Thurles to Roscrea, taking two days for the journey.

On the day of their arrival at Roscrea (5th of April), one of the men complained of febrile symptoms, and the officer in command very judiciously ordered him into the regimental hospital of Birr, by train, a distance of about ten miles. I saw him immediately on his arrival, when symptoms of typhus fever soon presented themselves; he got through steadily but slowly, and when convalescing he injudiciously exposed himself to the open air on a wet day, and got a relapse, from which he died eleven days afterwards.

After two days' halt at Roscrea the detachment came in by train to Birr to rejoin the head-quarters of the regiment. Nothing of any importance occurred among them until the night of the 13th April, six days after their arrival, when a little boy, ten years of age, was suddenly attacked with strong fever and involuntary diarrhea. I was not called to see him until nine o'clock next morning, when I found him with a hot burning skin; bowels continually moved without any previous notice; great prostration; thirst; a dark brown furred tongue; pulse small and quick, and his extremities covered all over with dark purple spots. At two o'clock p.m., I partly succeeded in arresting the diarrhea; bilious vomiting then set in, which was copious, and continued until five o'clock p.m., when it ceased; he then became quite unconscious and comatose; and at seven o'clock p.m. same date, he died—the purple spots increasing in size and colour all the time. Duration of disease seventeen days.

The treatment in the early stage consisted of Dover's and grey powder, in small doses, together with stimulants. In the latter stage vomiting set in so violently that nothing could be given to him. I may here mention that this child's mother washed for some of the men who were out with the flying column; the room where she resided was well ventilated and not overcrowded.

CASE II.—On the morning following the day on which the case above alluded to occurred, there were two fresh attacks, one a young married woman, whose husband had been out with the flying column, living in a small room by themselves, which was well ventilated and not overcrowded. The other a recruit of ten months' service.

The woman, when I first saw her, two hours from first attack, complained of a very severe pain in her head and back, and all over her body. Great thirst; tongue moist, and covered with a creamy substance. She speaks at times somewhat incoherently, and the body is covered all over with large dark purple spots; her husband states that the eruption made its appearance at the same time with the fever. After the administration of a strong mustard emetic she threw up nearly a gallon of bilious fluid which relieved the headache, and after a few doses of the diaphoretic mixture were given, a copious perspiration was established, which relieved her of the bodily pains. She progressed favourably, only

requiring a mild purgative occasionally. On the third day severe pain in the forehead, left eye, and temple set in, accompanied with conjunctivitis and chemosis of left eye; two days later, after great suffering (which leeches and a blister did not appear to palliate), pus formed between the layers of the cornea, and vision has since been obscured. The purple spots, which were chiefly on the extremities, remained for three days before they faded away.

She is now convalescent, with the exception of the eye, and I am in hopes that she may yet partly recover her sight.

CASE III.—Pt. C., æt. 19, a recruit of ten months' service, of a delicate constitution, had not been out with the flying column, but slept in the same room with some of the men who had just returned from it, and whose washing was done by the mother of the dead child already alluded to, reported himself sick at nine o'clock a.m. On the morning of the 14th of April, while waiting to be called into the surgery he fainted; he was carried into a ward and placed in bed, and as soon as he recovered a mustard emetic was given to him which brought away large quantities of bilious fluid. In less than an hour after admission he became quite delirious, and his teeth and lips were covered with dark sordes. It was not until a blister to nape of neck took effect that consciousness returned, and then he complained of pain in head, and all over his body; tongue very dry and brown, and the papillæ elevated; he also complained of intense thirst; there were some slight patches of purple spots, but not so visible as in the two former cases. The bowels were obstinately constipated, and two doses of *haust. cathart.* were given to him at intervals without having the desired effect. A large turpentine and oil enema was administered, which did not take effect for nearly three hours, when he nearly filled the night stool with a quantity of small black fetid lumps resembling pills, which gave him almost instant relief, and he then passed a pretty good night. In the morning following he answered questions rationally enough for a short time, when his mind would wander again. The skin was now moist, but the dry sordes on tongue and lips continued; he complained of great thirst.

The above symptoms continued much in the same way for the next forty-eight hours, when he began to improve in every respect, with the exception of the thirst, which was still very great. He continued to improve steadily for the next seven days, until he imprudently exposed himself to a draught at the window, which brought on a slight relapse, but he is now almost convalescent.

In this case it will be observed how quickly the head symptoms made their appearance, and the obstinate constipation he suffered from; and, although he was not out with the flying column, his case, along with the others, go to prove that the contagion was imported by the men from *Thurles*, where typhus first made its appearance.

The next case was more interesting, and of greater importance, and presented other and different symptoms to those already described.

CASE IV.—The patient was a lively, interesting girl of four years of age. About 3·30 o'clock p.m., on the 25th of April, she was suddenly attacked with violent headache, pain all over her body, particularly in the abdomen, a burning hot skin, a full and so quick a pulse that I could hardly count it. The parents gave her a warm bath, and at nine o'clock p.m., when they observed the child getting worse, they sent for me. I found the child suffering from the above symptoms, and very restless, a desire to vomit, but could not throw up anything, and the skin was covered all over with a purple eruption. A mustard emetic relieved her very much, as she vomited a large quantity of green bilious fluid, after which she slept, and passed a pretty good night. At nine o'clock a.m., I was informed that she was in a fit, and when I arrived she was just recovering from it, but I observed great muscular twitchings all over her body, particularly in her arms, legs, and those of her face. The arms were in a constant state of jerking, and her legs drawn up. These symptoms increased, and she was constantly raising her body up by her heels. She now required some person to be always in attendance on her to prevent her falling out of the bed; her face presented a wild appearance; the eyes staring, and the pupils much dilated; she did not speak, but constantly giving loud and short screams, and putting her hand to her head, indicating pain there; the bowels were opened but twice during her illness, and the discharge was very fetid, accompanied with wind.

All the symptoms increased in severity, particularly the screaming. Muscular twitchings and restlessness, and the purple spots became larger and darker, and at 8·30 o'clock p.m. she died. Duration of disease seventy-seven hours.

The treatment adopted in this case was a mustard emetic at the commencement, followed by a diaphoretic mixture and purgatives; mustard poultices to forehead, back of neck, and spine; cold applications to the head; latterly, turpentine and oil enemas, ammoniated tinct. valerian; small and repeated quantities of wine, brandy, and lemonade, for drink. All these remedies appeared to give relief, but it was only temporary, as the symptoms returned in a short time as bad as ever. The turpentine enema appeared to give the greatest relief. The valerian was not given until within eight hours of death, and the first dose produced perfect quietness for five minutes, but after that nothing appeared to give her relief.

CASE V.—The next and last case was a delicate little boy of eight years old. He took ill on the night of the 29th April, when he vomited and

was purged; but in the morning he got up, ate his breakfast, and went to school, where he had only been one hour when he was sent home ill. It was not reported to me until five o'clock p.m. that day. I found him complaining of great headache, and pains all over his body, a dry brown tongue, very hot skin, and he was covered with purple spots, countenance anxious, and the pulse full and quick. He became speechless at nine o'clock p.m., and was in spasms and convulsions all the night, and he was continually screaming. Towards morning he became better, the convulsive fits coming on only every second hour, but the twitching of the muscles were continuous, and there was muttering delirium. He remained so until the afternoon of next day, 2nd May, when the convulsive fits set in worse than ever, which continued so until 4.30 a.m. next day (the 3rd), when he died apparently in great suffering.

The twitchings of the muscles of his face and arms were very visible, and he was constantly jerking his arms and legs; and the purple spots became larger and darker in colour. Duration of disease, from my first visit, fifty-nine hours, but from first attack fourteen hours more.

The treatment consisted of a mustard emetic, diaphoretics, turpentine, and oil enemas, mustard poultices to forehead, back of neck, and spine, wine, lemonade, &c., &c.

The foregoing five cases occurred within the past month in these barracks during the prevalence of an outbreak of typhus and continued fever among the troops; and, I think, it is nearly proved that it was not from defective ventilation, overcrowding, nor bad drainage, the disease made its appearance here, but entirely depending on the importation of it from Thurles by the men who had been there.

The first case (that of the child whose father had not been with the flying column, but his mother washed for the men who had been out) made its appearance during the time the first washing was being done after their return. The next was the young married woman, whose husband had been out, and afterwards they slept together; and the recruit, who slept in the same room with the other men who had been out. The origin of the disease in the two children last mentioned can be similarly traced.

It is not my intention to make any comments on the nature of this new, but strange, disease. I shall leave it to those who have already seen something of it, and who have had greater experience.

The striking features of the disease are the febrile symptoms, and the purple eruption making their appearance almost at the same time, and the delirium setting in so soon afterwards.

Dr. GORDON read the following:—

On looking back upon the various cases of illness which may be

said to compose the present epidemic, the first circumstance calling for remark appears to me to be that the same set of symptoms do not uniformly prevail in all cases : in some instances the symptoms are almost entirely (at least on superficial examination) referable to the nervous system, and in others, with at least equal partiality, they confine themselves to the more obvious tokens of blood affection.

To this fact we evidently owe the different nomenclature of the disease, cases of the first kind being termed cerebro-spinal meningitis, and of the latter, spotted fever, or some other more formidable name.

It appears to me, therefore, to be desirable, in the first place, to decide, whether we are warranted in classing under the one name the various cases which have been met with, presenting either of those sets of symptoms, or whether we are to consider them as separate and distinct diseases. I will briefly relate two cases which have occurred to me since the publication of my remarks on this disease in the *Dublin Quarterly Journal* of the 1st inst.

A lady, thirty-seven years of age, was complaining for about a week of lassitude, occasional diarrhea, want of appetite, nausea, and inability to manage her household affairs as usual. If she walked out she became giddy, and her head so confused that she had to return home immediately. Driving shook her so that she could not use this mode of exercise either. However, on Sunday, the 12th, she was induced to take rather a long drive to accompany her husband, who had been also unwell. The entire time she was out she was occupied shifting her position so as to get some rest for her back. When she came home she had to lie down, and applied all sorts of domestic remedies, soothing, and counter-irritant, but without relief. At eleven o'clock I found her suffering great pain in her back, shooting forwards towards the epigastrium. This pain was most intense. She had also pain shooting upwards towards her head, in which she complained of great weight, and downwards towards her legs, which she said were powerless ; she had also a peculiar sense of constriction around the lower part of her chest. She was in a state of partial collapse, and the intensity of the pain seemed to be the only thing which prevented this from being complete.

She soon vomited—the vomiting was first the remains of food, which she had rapidly swallowed on her return from driving, under the idea that her distress arose from fatigue and hunger. It soon became watery and green, and was provoked by the least motion. This intense pain and vomiting continued for fully six hours. She got no sleep until seven o'clock in the morning, and then, on waking, she had cramps, pains down the legs, great sensibility of the surface of the body to alterations of temperature. This was obviously a case of spinal arachnitis, but there were also some few symptoms which, in my opinion, warrant our

recognizing it as a secondary affection. The condition of the pulse was some element in the diagnosis. It never assimilated the pulse of cerebral or spinal inflammation; it never rose above 84, and this is, as far as I have been able to judge, a great peculiarity of this epidemic, as contrasted with typhus or typhoid fever—the comparative slowness of the pulse. We had here also a weakly acting heart, and immense sense of weakness, long after all collapse had passed away, and as the disease yielded to treatment, we had further confirmation as to the blood origin of the disease. The pain in the back and vomiting yielded at length to the extensive use of an embrocation of compound camphor liniment and tincture of belladonna, which produced most powerful counter-irritation, and, of course, allowed of the absorption of the belladonna. Since the irritability of the stomach has been allayed, wine and quinine are completing the cure. There were never any spots in this case. The following is a remarkable contrast to the above case:—

A young gentleman, about twenty-three years of age, having bathed when somewhat fatigued, was attacked with the usual symptoms of anorexia, and shortly afterwards his face and the upper part of his body was covered with an eruption somewhat like measles, but the patches were irregular in size and shape, they were dark coloured, they were rough looking on the surface, they could be more or less completely effaced by strong pressure, they were thickly interspersed with petechiæ, they spread gradually over the whole trunk, being most thick on the back, passed down the thighs, and have come out sparingly about the knees, and on the dorsa of the feet.

In this case the eruption forms the grand prominent feature (it is totally unlike measles, and may at once be excluded from the ordinary exanthemata by the mode of its development, and by its duration; it is still coming out on the lower extremities, and has not yet disappeared from the upper parts); the other symptoms of blood affection are, as in the lady's case, a weak condition of the heart, a feeble but not a rapid pulse, 80 is about the average, but we have the following symptoms of a simultaneous affection of the cerebro-spinal meninges, corrugation of the brow, occasional pain in cervical region, sense of weight in head, occasional subsultus, nausea, and sometimes diarrhea, with a furred and that peculiar symptom—a greenish tongue.

I bring forward these brief notes of these two cases, merely as examples of what I stated above, that there is, in almost all cases, a marked predominance of one set of symptoms, but never to the total exclusion of the other. The grounds then which, in my opinion, exist for our classing these two sets of cases under the one nomenclature are, first, that in many well-marked cases we find the two sets of symptoms (if I may so call them), evidences of profound blood affection, and proof of extensive

cerebro-spinal meningitis in perfect combination; 2ndly, that although the indications of blood affection may greatly prevail in one case, and the symptoms of lesion of the nervous centres in another, they never do so to the complete exclusion of the less obvious phenomena; and 3rdly, that, *mutatis mutandis*, the same plan of treatment will cure the affection whichever train of symptoms predominate, due care being had to the probable secondary affections which the nervous centres may have to undergo.

What the general title should be is another question altogether.

Wood—who, in the last edition of his *Practice of Medicine*, gives a very satisfactory account of the disease—wishes it to be called *petechial fever*, as no other form is so peculiarly marked with true petechiæ, and as there is no other phenomenon more constantly present which can serve as a basis for nomenclature.

All physicians who have had opportunities of seeing epidemic fevers on a large scale, have met with typhus fevers without eruption, and typhoid fevers without eruption, and therefore the fact that cases have occurred of this epidemic without eruption can form no well-grounded objection to the title being selected; but adopting another basis for our classification, we might, perhaps, with more advantage, term it cerebro-spinal fever, as we call others, from their pathology, and the habitat of their morbid phenomena, gastric, enteric, &c.

Dr. LYONS read the following:—

CASE I.—This case may be briefly noted. It is that of a youth in the prime of vigour, aged nineteen, fully developed; an energetic cultivator of athletic sports, and apparently in perfect health prior to the seizure which struck him down with such a terrible fatality. The details of this case I owe to the kindness of Drs. Clifford and Grant.

An officer, of one year's service, nineteen years of age, full habit of body, sanguine temperament, and hereditary pre-disposition to head affection, reported himself sick on Tuesday morning, April 16th, to Dr. Grant, stating that he felt bilious and out of order, and inquired whether he could go to the regimental races (Baldoyle). As his tongue denoted slight disturbance of the stomach and liver, he was ordered a mild mercurial purgative, to be followed by a saline draught, and enjoined rest. Visited again at noon—found better and anxious for food. Ordered very light diet. Seen again at six p.m. The bowels had been freely moved; copious biliary evacuations; otherwise not much change. At eleven p.m., finding that there were feverish symptoms and headache, ice was ordered to head, and a saline diaphoretic. Dr. Clifford was then sent for, and on seeing him soon after, he found the headache continued, and that irritability of the stomach had set in, the matter vomited being

dark purple, coloured with a slight amount of ropy mucus. Ice allayed irritation of the stomach, and he fell into a tranquil slumber for some time; pulse soft, not frequent; skin moist and perspiring; on waking he was perfectly sensible, and did not complain much of headache; the rest was tolerable during the remainder of the night, and in the morning there was a marked improvement in all the symptoms; complained only of headache (frontal). At nine a.m. he was removed to a fresh bed, and left proceeding in a most favourable manner under charge of Dr. Grant. He continued tranquil for about half-an-hour, when he suddenly became restless, and was with difficulty restrained in bed. At eleven a.m., symptoms of congestion of the brain set in; small dark spots became now visible which had not existed before; the head symptoms increased rapidly, and resisted all treatment (external). Internal treatment being impossible, as he could not swallow.

The treatment consisted in unloading the intestines and promoting secretion from the liver, watching carefully for head symptoms, applying ice, &c., &c., and when the congestion of the brain occurred, leeches to the temples, turpentine enemata, mustard sinapisms externally used and renewed over the spinal column, epigastrium, limbs, &c. Towards the end the action of the heart and strength of the pulse became gradually weaker, the respiration more impeded, and he quietly sank at about one p.m., having been insensible since eleven a.m. There was no retraction of the head.

There was no *post mortem* examination made.

The body was seen at about 1.45 by Dr. Stokes and Dr. Lyons. The head and face, as well as the neck, were of a dark cyanotic tint. The surface of the body generally was not abnormally discoloured, but on the back there was a considerable amount of deep congestion of the skin between the shoulders, and down to about the waist.

Here and there upon the back, flanks, abdomen, calves of the legs, and inner parts of the thighs, were to be noted some dark, bluish-black spots, perhaps a dozen in all, some angular, more irregularly rounded, from two to three lines in diameter, unaffected by pressure, not prominent above the skin, and feeling firm to the touch.

CASE II.—For an opportunity of seeing the next case, I am indebted to Dr. Banon, who wished me to visit the patient with him, as he had not previously met with a case of this singular and appalling malady; it is but just to add that he had already made an accurate diagnosis and prognosis of the nature and formidable character of the disease under which our unfortunate patient was found to be labouring.

When seen by Dr. Banon and myself, at about 11.30 p.m., on the 24th April, she was found lying on a sofa perfectly unconscious, and wholly incapable of being roused, but she lay with her knees drawn up, showing

that muscular power was not altogether annihilated; her breathing was very quick, about 40, short, and somewhat noisy; the pulse was all but imperceptible, and the heart's sounds were with difficulty heard by the stethoscope. The eyes were lurid; the pupils, of about medium size, were found to be wholly insensible to light. A clammy sweat covered the body; the feet and hands were cool, but had not quite lost all animal heat. The most notable feature about the case was, beyond all question, the presence of numerous dark-purple spots, thickly strewn on the face, trunk, and extremities. They varied in size from that of a sixpence to that of a half-crown piece, and upwards, and here and there seemed to run into each other, while in various parts of the body the intermediate skin wore a general dark cyanotic hue.

The most active treatment, by external and internal stimulation, medicinally and otherwise, proved unavailing, and the patient died at about one o'clock a.m. on the 25th.

Little of an accurate character could be ascertained as to the history of this case. The patient was about forty years of age; unmarried; a seamstress; she had pursued her avocations to the day of her fatal illness, and it was late at night when medical aid was first sought. This, in itself, is sufficient to show the insidiousness of the earlier symptoms, which were such as to raise little or no alarm, while, towards the close, the suddenness with which the eruption of purpuric patches was thrown to the surface, and the rapid supervention of symptoms of failure and depression of the vital powers, with the speedily fatal issue, mark, in a striking manner, one of the most characteristic features of this strange and terrible malady.

It may be worth while to note that the patient's mother, not unfamiliar, as we may presume, with sickness in many a form, repeatedly exclaimed, "Oh, this is the new disease. I'm sure 'tis the new disease," &c. Death took place in about thirty-six hours from the time at which any notable departure from health was observed.

CASE III.—I had the advantage of seeing this case in consultation with my friend Dr. Byrne. The patient was a fine, handsome boy, of about eleven years of age, of well-nourished frame. On the 24th April he took a long walk with a grown relation; towards evening he sickened and complained of headache, when some aperient medicine was administered by his friends. Later in the same night he was visited by Dr. Byrne, and until about twelve that night no spots of any kind were visible on his person. On the 25th he was seen by me in consultation with Dr. Byrne, who had at once, on seeing the spots, recognized the true nature and formidable character of the disease; although, to the ordinary observer, there was little about the patient to show the danger in which he was.

When seen at one p.m. on the 25th, his state was as follows :—He was sitting up in bed ; made little or no complaint of headache, which he said was better ; of sickness of stomach, for there was none ; or of any other specific of what kind soever ; he was perfectly clear and collected ; had a full, strong voice ; could rise in bed, turn, help himself in every way, and wanted to be allowed to sit up ; his chief inquiry was, “doctor, doctor, what are these spots?” pointing to numerous dark, blue, black spots on his arms and elsewhere. With such full possession of consciousness, and such an amount of muscular power as he retained, it was not a little surprising to find that there was a total absence of pulse, which was completely extinguished in both radials, and the heart’s sounds were but faintly audible to the stethoscope.

The eyes were slightly injected, but the pupils were perfectly natural ; the face was greatly discoloured, or rather somewhat dirty looking, with two or three angular spots on the left cheek, of blue-black colour, firm to the touch, unaffected by pressure, perceptible as lying in, above, and beneath the skin, and very much of the character of what are known as weals. These spots were found on the face, arms, forearms, backs of hands, on the trunk, and a few on the thighs and legs, which were generally somewhat of a cyanotic hue.

A mustard emetic was administered and freely taken, long retained, and at length but partially returned with no free effort to vomit, notwithstanding the aid of hot water. External and internal stimulation was freely employed, and all medicines and nourishment were readily taken and retained, but with no sensible improvement to his state. He was repeatedly seen both by Dr. Byrne and myself during the day, and all our directions were carried out with unflagging zeal. At about half-past six o’clock slight returning pulsation in the radial arteries could be faintly felt, but this proved only a fallacious symptom, and with little or no further change he sank at about half-past nine p.m., a little over twenty-four hours from the time when he first sickened, and less than twenty-two from the time the spots first appeared.

Of the three cases just cited it is to be observed, that as well as those previously recorded by me, all occurred in persons apparently in full vigour of health, with well developed and well-nourished frames, of full habit, and in whom the adipose tissues abounded.

They are new to me in the character of the cutaneous spots and patches which they present. They all showed an absence of specific lesion of the nervous system, so far as I read aright their pathological indications. And long prior to their occurrence, during their prevalence, and since, I have had under careful observation, and treated numerous examples of the best marked specific lesions of the central portions of the nervous system, and their membranes.

Finally, I regard the pathological affinities of this strange malady to lie

rather in the category of those diseased states which include blood-poisoning, yellow fever, cholera, the effects of sun-stroke, than with those in which active hyperemia exists in one stage, and lymph or purulent exudation in another stage is poured on the brain, cord, or their membranes. But I am quite free to admit that there are two distinct but occasionally mixed types of disease in the late epidemic. I regard the disease which I have described as the algide condition of a zymotic malady, and I propose to designate it *FEBRIS NIGRA*. I shall be prepared to discuss its pathology more fully when the proper time comes; I now give place to the able contributions which are to follow.

Dr. JOHN HUGHES read the following:—

Jane Traynor, aged six years, was admitted into the *Mater Misericordiæ* Hospital, April 10th, 1867.

She went to bed on the night of the 6th in her usual health, and awoke next morning complaining of sickness of stomach. Afterwards she vomited, and both the nausea and vomiting continued up to midnight. Her mother also states that the surface of her body was then quite livid.

On the morning of the 8th dark spots were to be seen on her face, legs, and arms, and in the evening on the body also.

Dr. Montgomery, of Blessington-street, saw her on that day, and his description of her condition corroborates that of the mother. He also says that she was semi-collapsed, almost pulseless, and rather cold. On the night of that day her head was first remarked to be drawn backwards. The spine appeared curved and the legs bent.

On the 9th there were no new symptoms, but those already existing were more strongly marked.

On the 10th, the day of admission, the above symptoms were very prominent—the retraction of the head, the arching of the spine, the flexed position of the limbs, the rigidity of the muscles, the extreme sensibility of the surface, and the pained and anxious expression of the face; the knitted brow, the suffused eye—were very remarkable, and plainly indicated cerebro-spinal disturbance.

Superadded to these symptoms, there was a peculiar eruption of dark-coloured livid, almost black, spots, over the entire body, except the neck and scalp. The eruption was, however, much more abundant on the face and extremities than over the trunk; and the size of the spots was also larger in the former than over the body, in some instances attaining the size of a sixpence.

Those spots were irregular in shape, but the smaller ones were circular, or slightly oval. In fact, looking at the child as she lay in bed, a superficial observer might not unnaturally conclude she was labouring under an attack of measles of an asthenic or malignant type.

It is hardly necessary to add that the pulse was extremely rapid, and occasionally imperceptible.

The heart sounds were natural; the body was wasted; the temperature low; sensibility of surface exalted; the eyes suffused; pupils natural, with little expression, and apparently diminished consciousness; bowels free, evacuations passed in the bed; great restlessness; incessant whining, and jactitation of the arms.

11th.—Pulse still incalculable, and occasionally imperceptible. Rested pretty well last night. No convulsions, nor any other appreciable change.

12th.—Pulse 138; she is not so dull; occasionally notices what is going on about her; she lies in bed quietly, but whining almost continually. The conjunctiva of left eye is more inflamed, and the eye looks dull; vision, however, is not impaired. Some portions of the rash are of a redder colour; a few, however, have become almost black, especially one, situated over the left elbow, of an oval shape, and surrounded by a red margin, which is nearly the size of a shilling.

13th.—Pulse 140; very weak; rested badly last night; continually screaming as if suffering intense pain; rash generally becoming of a reddish brown colour.

The cuticle over those spots which were noticed to be the darkest (almost black) is now raised by effusion of a sero-sanguineous fluid underneath it. The retraction of the head and the arching of the spine are still strongly marked, fully as well as heretofore, although she appears somewhat more conscious, and calls occasionally for her mother, and recognizes the sister on duty in the ward.

14th.—Pulse 134, and fuller; on yesterday a vesicular eruption appeared on the shoulder, on the chin, and on the bridge of the nose. The former rash has assumed a brighter colour. She takes broth and milk freely; other symptoms unchanged.

16th.—Pulse 120, stronger; slept a good deal last night, and also to-day. The measly rash is fading, but the vesicular portion of it, which had previously ruptured, is replaced by a yellowish superficial ulceration surrounded by an inflamed margin. The eye is still inflamed, but does not look so dull. The upper extremities have completely lost their rigidity, and the head is less retracted; takes nourishment freely.

18th.—Pulse 100; rested well last night; is livelier and more sensible to-day. The head is still retracted, and the spine arched, but there is no rigidity of the muscles, and she allows herself to be placed in a straight position; the rash is fading everywhere, and there is now none visible on the body; the eye is clearing.

From this date forward her convalescence was uninterrupted, though slow, and we remarked, when every other symptom of her severe illness had disappeared, there was strabismus apparently of the left eye. Thinking that this affection might have existed previous to her present illness,

we made particular inquiries of her mother, who assured us she never had anything wrong with her eyes, and in confirmation of that statement she is now fast recovering from that symptom.

The treatment I adopted in this case was free, and I may say very decided—counter-irritation over the scalp, with internal administration of iodide of potassium and bark, at the same time supporting the system with wine and nutritious diet.

I looked upon this case as one of cerebro-spinal meningitis, to which was superadded this peculiar eruption. For all the most prominent symptoms pointed to such a lesion, and I was the more strengthened in this opinion from having had in the same ward two other cases shortly before, which presented almost all the same symptoms *without any eruption*, and ended fatally. One was a girl named Charlotte Smith, aged 11, who was admitted on the 1st, and died on the 11th of March. This patient had the retraction of the head, and arching of the spine with flexure, and rigidity of the limbs, suffusion of the eyes, convulsive fits, and other symptoms, referrible to the cerebro-spinal system, well-marked on her admission, and for a week before; and this condition of the spine and muscular system was so permanent that the body could not be straightened, even after death.

On making a *post mortem* examination the only lesion found was an effusion of serum into every cavity of the brain, and into the spinal canal without any trace of lymph or pus.

Another was Mary Hart, aged seven years, was admitted from the dispensary on the 27th March, and died on the 8th of April.

She had been ill for a few days, but on admission had no special symptoms, except great dulness, listlessness, and depression of the vital powers, and loss of appetite.

On the third day the head became retracted, the spine arched, the limbs flexed and rigid, and she was seized with convulsions. Some days before her death she lost her speech and sight.

In this case no *post mortem* examination was allowed; however, there can be little doubt we should have found pretty much the same appearances as in the case of Charlotte Smith, who died some days before Hart's admission, having had almost exactly the same symptoms.

DR. HAVERTY, Surgeon, 52nd Light Infantry, read the following *Abstract of Cases of Cerebro-spinal Meningitis, and so-called Black Typhus, or Malignant Purpura, &c.; from the Hospital Records of the 52nd Light Infantry.*^a

Private Hornblow—Meningitis.—On the 24th of February he was on guard at the Magazine Fort, and on being relieved next morning came to

^a See observations on these cases by Mr. Haverty, at page 87.

hospital with all the signs of an impending severe attack of disease. There was a tendency to prostration, with a livid purple hue of countenance, suggesting at first sight the probability of an acute affection of the lungs; but there was no cough, and no stethoscopic indication to that effect.

After lying quietly in bed for some hours, sleeping a good deal, he suddenly complained of severe pain of head, which gradually increased to such an extent that about midnight he became very restless, and when visited about four o'clock a.m., was tossing about and almost shouting with pain. The pulse at this time was firm and resisting, and between 70 and 80 beats; tongue dry and brown; skin hot and harsh; nothing peculiar in the pupils.

A few leeches to the temples; calomel and James's powder every second hour, and a turpentine enema, were followed by well-marked relief; but again in the following night, there was a recurrence of the violent head symptoms, and on being seen at one o'clock a.m., his state was much as on the previous night. A blister was applied to the nape, the head shaved, and the tartrate of antimony ointment rubbed into the scalp.

A state of comparative quiet again succeeded for many hours, but only to be followed by the usual intense pain of head, with constant moaning and restlessness, and no steady sleep; the tongue remained dry and brown; the pulse less resisting; the pupils sluggish, but not irregular; bowels open.

On the 1st of March there was little change, except that he now for the first time complained of severe pain all along the spine, with great tenderness on pressure.

The pain of head and in the eye-ball still persistent, but not so intense as at first; tongue getting a little moist, but covered with brown fur; pupils sluggish; intestinal discharges very dark and offensive.

On the 3rd the pain of head was more troublesome than in the back; the pupils showed little or no sensibility to light, and double vision was observed. No urgent thirst was present from the beginning, and a fair amount of nourishment was taken.

Next evening there was vomiting of dark bilious matter, the irritability of stomach, hiccup, and cold sweating about the trunk lasting for some hours. The man's general condition seemed much improved next morning, but it did not continue many hours. The usual moaning, restlessness, and sleeplessness succeeded, and he now began to refuse wine or nourishment. The bladder became inactive, the urine having to be drawn off several times in the twenty-four hours.

In the succeeding days the pain of head and back subsided to a marked degree, but the general conditions became more and more unfavourable. The tongue was again dry and glazed, pulse increased in frequency and

weakness, and the thirst urgent. The wandering, which had been only occasional, was now perpetual. There was intense restlessness and laboured respiration, and death ensued on the evening of 11th March—fifteen days after admission to hospital.

The treatment had consisted chiefly of the various counter-irritants already alluded to, and mercury pushed to the extent of ptyalism.

On examination of the body, there was found intense congestion of the membranes of the brain, with opaque patches of the arachnoid; the brain substance comparatively healthy. The congestion was much more intense at the base, accompanied with copious deposition of lymph, and traces of purulent matter about the pons and upper portion of the medulla oblongata. The ventricles contained a considerable amount of muddy fluid. Beneath the calvarium, near the anterior end of the longitudinal sinus, there was a patch of lymph deposit on the dura mater.

The contents of the thorax and abdomen were comparatively healthy.

Private Matthews—Meningitis.—Admitted the 16th of April with severe rigor, and the general conditions antecedent to ordinary continued fever; remaining closely covered up with the bed clothes during the day, but showing no signs of incoherency, or any remarkable or alarming symptoms until about two o'clock next morning, just after being at stool. At the time of going to stool he spoke in a natural manner to the orderly of the ward and for some minutes after returning to bed. Then suddenly he complained of intense pain of head, and almost immediately became insensible.

On being visited soon after by Assistant-Surgeon Gogarty, he was found insensible, as above described—the respiration laboured and very rapid, skin cold, pulse rapid and weak, pupils natural and sensible to light; no loss of sensation in the limbs, as evidenced by pinching. The stethoscope indicated very loud and clear respiratory murmur all over chest, masking the heart sounds, which were very feeble; his jaws were firmly locked, and there was incessant tossing about of the arms and legs. His head was immediately shaved, cupping ordered over the nape, calomel by the mouth, and turpentine enema.

Two hours later, when visited by myself and Dr. Gogarty, all the symptoms had become much aggravated, the convulsive action was accompanied with opisthotonos, lasting for a few seconds at a time; the surface of body was quite cold, pulse weak and rapid, and barely perceptible, breathing stertorous, pupils now dilated. About the lower third of thighs a few petechiæ were observed.

Various stimulants and counter-irritants were ineffectually tried—ammonia to the nostrils, sinapisms to various parts of the body, &c.

The convulsive action ceased shortly after, except that the jaws remained locked, and death ensued in a state of comparative repose at 8.30 a.m., twenty-three hours after admission to hospital.

Autopsia, horis xxvi. post mortem.—Body remarkably muscular and robust, cadaveric rigidity well marked, intense lividity (which began to appear directly after he had expired) about the head, face, and trunk; large vibices about the thighs.

On removing the calvarium, the dura mater was found adherent to a great extent in the course of the longitudinal sinus, and here and there a few pointed cheese-like eminences were seen on the surface of that membrane.

All the sinuses were distended with fluid blood, but the membranous congestion was not very remarkable, except at base of brain, where shreds of lymph were found about the pons and upper part of medulla oblongata.

In the chest no remarkable engorgement of lungs was observed, but all the great vessels were distended with fluid blood. An unusual amount of fluid was contained in the pericardium; the heart itself was large, and the right chambers distended with *post mortem* fibrinous clots; the valves healthy.

In the abdomen the liver was found enormously enlarged, and weighed nearly six pounds; both kidneys were enlarged and engorged, especially the left; bladder distended with fluid.

Intestines healthy.

Private Lester—*Purpura maligna.*—Admitted last evening, 30th April, about eight o'clock p.m., making little or no complaint, except of some pain in one leg, which afterwards extended to both limbs.

He had come off guard in the morning, and was observed to be in his usual high spirits; preparing his kit for next day's regimental inspection, &c. In the course of the day he was said to have had a rigor, but he had nothing of the kind on coming to hospital, and mentioned nothing of its having occurred.

At a late hour of the evening he was cheerful, talking to the men in the ward, and slept soundly until towards morning, when he began to ramble in his sleep, and soon after woke up complaining of severe pain in the limbs and body, but not in his head.

About seven o'clock in the morning he passed a stool under him not unknowingly, but stated that he could not control himself. A short time previously he vomited some white frothy matter, small in quantity.

Large livid purpuric spots were now seen about the lower limbs, and signs of general prostration came on; the conjunctivæ were deeply congested, the ends of the fingers and finger-nails were livid and numb; the surface of the body, though not cold, was not warm; the tongue was thickly loaded with bright yellow deposit; the pulse was scarcely perceptible, but the heart's action, examined by the stethoscope, was not correspondingly weak; there was no approach to convulsive action as in the last case. The man replied satisfactorily to questions, though rather incoherent

when left to himself. There was no pain of head throughout the case, but there was now some pain in the back of his neck, which did not extend down the spine. The prostration steadily gained ground in spite of copious stimulants and counter-irritants, and death ensued at 12.30 p.m., sixteen hours after admission to hospital

Post mortem twenty-three hours after death.—Externally—body stout and well formed; purpuric patches all over the body, more particularly over the thighs and legs.

Head.—Dura mater healthy; a slight increase in thickness and tenacity observable in arachnoid and pia mater; an unusual quantity of serous fluid at the base of the brain and in the spinal canal, the fluid flowing from the latter being of a much darker colour from an apparent admixture of blood. The substance of brain and of spinal cord healthy and free from congestion.

Chest.—Heart healthy; stained with mulberry coloured spots over its surface, and left side full of dark coloured fluid blood; one or two small dark coloured cogula in the chambers.

Lungs.—Healthy, congested.

Abdomen.—The liver pale in colour but healthy; spleen healthy; kidneys rather large, healthy; intestines healthy; bladder empty.

Private Thomas Cover—Purpura maligna.—A healthy lad, aged nineteen, less than two years enlisted, was observed to have a shivering fit on the morning of 6th May, and was sent to hospital by the sergeant of his company; the shivering fit ceased soon after he got to bed, slight headache and pain in the limbs were felt during the day, but nothing serious was observed in the case until about 6.30 p.m., when the countenance assumed a dusky pale ashen hue, and signs of prostration and drowsiness showed themselves, though not nearly to so intense a degree as in the late fatal cases. The eyes were free from congestion, the pulse slow and feeble, but the heart's action tolerably good, the limbs dry and tending to coldness, but no numbness or lividity of fingers. There was great unwillingness to reply to questions, but no incoherency; little or no pain of head or limbs, and no trace of convulsive action; the pupils natural.

A few livid patches now appeared on the thighs and legs, larger than petechiæ, but not so large as those of purpura. An involuntary alvine evacuation occurred about this time, a purgative enema having been given an hour or two before; vomiting occurred two or three times, but was not obstinate. A cup of strong tea and afterwards port wine negus were given, sinapisms were applied over the heart, and to the limbs, and friction was used.

The stomach again rejected its contents, and after a short interval brandy and milk was given very frequently in small quantities. It was retained, and a steady reaction and improvement slowly followed. Next day well-marked reaction had become established, the pulse which had

hardly numbered 70 rose to over 100, there was a good deal of general febrile action, with occasional restlessness, but no very severe pain of head; faint twitching about the angle of the mouth was observed, the tongue was slightly lateralised on protrusion, and loaded with moist whitish fur; pain was felt about the body and lower limbs, but none in the course of the spinal column; bowels not opened since yesterday; urine scanty and high coloured, and some irritability of bladder.

At midnight, on the 8th, there was great restlessness and moaning; he lay constantly on the left side with the head thrown back, and the spinal column curved to a marked degree, the face was flushed, surface of body hot and dry, and the pulse 120; double vision was also observed about this time.

His condition remained much the same during the next two or three days, but on the 11th a well-marked amendment was observed. He had several hours quiet sleep in the morning, the pulse, which had been as high as 140, fell to a little over 100, the tongue was less loaded, the arched position of body much less remarkable, and the expression of eye and countenance more natural.

He continued to improve almost uninterruptedly until the 16th, when he complained of severe pain at the vertex, the left pupil was more dilated than the right, but there had been no rigor, and marked general febrile disturbance. On the 18th there was a severe rigor about 11 o'clock a.m., following unusually severe pain of head earlier in the morning; towards evening his usual comparatively calm and comfortable condition returned, but each morning since then he has been seized with severe pain, sometimes commencing in the head, and afterwards extending to the loins and thighs, and sometimes *vice versa*. This morning, 22nd May, a prolonged shivering fit of two hours' duration occurred, ceasing about mid-day.

In the treatment of this last case, after the commencement of the reactionary fever, the administration of chlorine constituted, for a considerable time, the principal element: its employment was suggested by my friend Dr. Sinclair, who warmly advocates the views of Dr. Watson, relative to its highly valuable antiseptic properties.

Report of Five Cases. By HENRY GRAY CROLY, F.R.C.S.I.

CASE I.—A young gentleman, aged sixteen years, previously healthy, ate heartily on Saturday, 17th March, 1866, went to Castle-yard to hear the band play, and was in high spirits; went to a dancing academy on same day, and danced every dance; passed the evening out, and drank some beer, but ate no supper.

Sunday morning, March 18th.—Looked pale, and refused breakfast; said he would not go to church, but would go to meet some friends at St. Patrick's, at three o'clock, by appointment; did not go, however; had shivering fits; went up to bed, and ate no dinner; complained at night

of headache, and talked incoherently occasionally; said his throat felt sore; his stomach became irritable, which was soon followed by vomiting; conjunctivæ slightly injected; drank some tea, but vomited it almost immediately. His pulse became quick, and there was a heavy smell from him (which he noticed himself). On examining his throat it was observed to be slightly reddened. A few spots resembling purpura were remarked on his arms; and similar spots were found to exist on the abdomen and thighs. He had no bleeding from the bowels, gums, or nose; he drank some claret; said it hurt him to swallow; throat brushed with sol. of nit. of silver.

At twelve o'clock the black spots became *broad patches*. I at once sought the advice of Professor Benson, who came with me, and advised a continuance of the claret.

I remained with the patient all night. He was restless, and raved a great deal, but slept some; drank a bottle of claret.

At eight o'clock, a.m. said he felt better; drank some tea; his pulse became very rapid; temperature of body high; black spots appeared on his nose and face, and looked as if a quantity of black ink was spilled over his face; he passed no water during the night, but his bladder was not distended.

Catheter introduced. About four ounces of natural urine drawn off. He complained now of pain in his left wrist. His pulse rose rapidly to 160; temperature of body continued high. He became suddenly insensible, and died at five o'clock (duration of illness about thirty hours).

Black spots became larger, and before death were continuous on his arms, like gangrene.

Treatment—Brandy, beef-tea, and quinine injections; brandy turpentine and tr. iron by mouth.

CASE II.—J. D., a fine healthy young man, aged twenty-two years, residing near James's-street Harbour, by occupation a labourer; was in excellent health, ate his breakfast heartily, and went to work as usual on Saturday, July 14, 1866. At one o'clock he returned home and complained of severe headache and pain in his back; asked for a hot drink, lay in bed, and slumbered till six o'clock; took a dose of Epsom salts by the advice of a woman in the house; he vomited the medicine, and had a slight attack in his bowels; had his feet bathed, passed a most restless night, took a little punch. At seven o'clock on Sunday morning (15th inst.), black purplish spots appeared on his nose and face—similar spots appeared on his arms; at half-past eleven o'clock he died. A medical gentleman, living in the neighbourhood, was called in on Sunday morning, but the man died ere he reached the house. (Duration of illness twenty-two and a half hours.)

CASE III.—A. B., aged nineteen, a student in medicine, on Monday,

April 1, took rather violent exercise. That evening he felt tired and went to bed early, but was all right the next morning. On Wednesday, 3rd inst., he was in very good health, and ate his meals very heartily. At night he complained of some soreness in his throat, but it was all gone the next morning. On Thursday, 4th inst., he got up to his breakfast and ate it as usual; none of the family saw him that morning until he returned from hospital. While at the hospital he said that he had got an attack of influenza, and was altogether knocked up; he did not go up into the wards, but sat at the fire in the resident's room until after the morning visit. He got a dose of James's powder at hospital, which he brought home with him. He told several of his friends that he felt an *all-overness*. His uncle noticed a red spot in the corner of his right eye. He went to bed at two o'clock, and took some gruel, but vomited immediately after. At seven o'clock he took the James's powder. This put him into a great perspiration. He was very thirsty during the night, and drank some lemonade and water; he vomited frequently in the morning; he said he spent a very long, tiresome night, and slept very little. At about eleven o'clock last night he himself noticed some darkness on the upper lid of his right eye, and made the remark that he hoped his eye would not be injured. Friday, this morning, he felt pretty well while lying down, but his head *pained* if he attempted to sit up. He took some tea, but threw it up immediately after. The lid of his eye had become much darker in colour.

Friday, April 5, eleven o'clock a.m., I saw him for the first time; he was supposed to be asleep; lying on his right side; respiration rapid; pulse rapid and feeble; coldness of hand; reddish mottling on face; ecchymosed appearance of eyelid; on stripping patient I observed dark spots of irregular shape, some small like ordinary purpura, and others large and of more violet hue; pupils small. I tried to get him to speak to me, but could not succeed; he soon became restless and moaned; his friends could not at first believe he was insensible, as he spoke to his aunt a few minutes before my arrival, and asked her to sit down; bladder not distended; bowels have been moved during night; he slept none; abdomen soft; vomited frequently before I saw him. I at once pronounced the case one of those called Black Death, or "*Malignant Purpura*" (which I consider a better name), and informed his friends of the extreme gravity of the case, and the certainty, so far as I believed, of its fatal termination.

I applied hot jars to the feet, administered brandy and ether by the mouth, but patient could only succeed in swallowing a small quantity.

I injected brandy, ether, carb. of amm. and beef-tea in small quantities and at short intervals.

He soon worked violently in convulsions, and would have fallen out of bed but for being held; upper extremities chiefly affected about half-past

twelve o'clock, and head tossed about; left conjunctiva much congested; eyes half open; spots on legs and thighs larger and more irregular. He appeared to suffer much from spinal irritation, though at no time was the head actually thrown backwards. He sank rapidly, and died at half-past two o'clock. (Duration of illness thirty hours.)

The case was seen by Dr. Geoghegan about twelve o'clock, by Dr. Stokes about one, and by Dr. Benson at half-past one.

At Dr. Stokes' suggestion I added ten grs. of musk to *each* injection, and five drops of laudanum.

CASE IV.—Anne Gill, 4, Hanbury-lane, aged two years, died Friday, April 26th, of ten hours' illness.

History.—Her father states the child was in good health until four o'clock on Thursday evening, the 25th instant, when she was attacked with vomiting and purging, convulsion set in about an hour and a-half before death, spots appeared (the left hand and *arm* only were convulsed.)

Purplish spots appeared on her face, and some on her arms, and all over the body; the spots increased in size and number after death; none of the people in attendance ever witnessed anything like the disease, but the father took it to have been the measles.

CASE V.—Marianne Byrne, aged twenty-one years, always healthy and strong, resided in 48, James's-street, was attacked on Tuesday night (at half-past eight o'clock), 13th May, with severe rigors, and coldness of the surface of her body; she vomited repeatedly a slimy yellow matter, the vomiting continued until four o'clock in the morning. She had one motion from the bowels during the night.

Diarrhea then set in, and the bowels moved at least ten times. All day, Wednesday, 14th inst., she suffered from severe headache and pain in her back; blue spots, which soon became black, appeared on Wednesday on her legs; surface became colder; she died in *convulsions*, with the head *forcibly thrown back*, at twelve o'clock on Wednesday night. (Duration of illness twenty-eight hours.)

Shortly before death black spots appeared on her arms.

There were some on her face also.

Report of three Cases which occurred in Meath Hospital, under the care of Drs. STOKES and HUDSON.

CASE I.—Commencing with the ordinary symptoms of a pyrexial attack, these followed on the second day by unusual prostration, the occurrence of head symptoms, and the appearance of a peculiar eruption on the extremities.

Much muttering, delirium, stupor, and sleeplessness; gradual sinking; death on the morning of the seventh day.

Post mortem.—Cerebral arachnitis; no apparent lesion of the spinal cord.

Mary Lewis, aged twenty-three, a servant, living in South King-street, had been in bad health for some months past. This attributable to hard work and indifferent food. Catamenia regular.

On Wednesday, January 30, 1867, she took ill, the first symptoms being a severe pain in the *right* leg. This was soon followed by headache and rigors. The same evening she had an attack of *epistaxis*. Next day their appeared on the legs and arms numerous spots somewhat resembling those of purpura hemorrhagica.

She was admitted Friday evening, February 1.

Saturday, February 2 (fourth day of her illness).—When seen she had the appearance of just wakening from a heavy drunken slumber. The face was dusky, stupid-looking, the eyes suffused and dull. The skin generally resembled that of a patient in typhus fever. She complained of great headache, principally in frontal region. Required to be roused before she answered questions; general hyperesthesia; much muttering; delirium at times; partial retraction of the head.

Over the chest the percussion and auscultatory sounds were perfectly normal. The heart's action was occasionally irregular and very weak; there was not any murmur.

The tongue was brown, but moist; there was considerable thirst, no vomiting, appetite bad, but she took nourishment well. Bowels rather confined.

Eruption.—On the legs and arms were found spots of a dark purple colour, and of different sizes; all of them accurately defined and circumscribed, also slightly elevated; perfectly indelible on pressure, and in places covered with tiny papillæ, or even vesicles. The largest of these spots was about the size of a sixpence. They were confined to the extremities, with the exception of one or two small ones on the face, and many over the gluteal region.

Besides these spots there was noticed on the chest a mottling of the skin, almost passing into the form of petechiæ in places; besides a dusky hue like that of typhus.

On this morning the pulse was 84, full; respiration 28; and the temperature 99°·6.

The treatment pursued was as follows:—

Wine, ℥xij., oranges, chicken-broth.

R Potassæ chlorat. gr. 60.

Sodæ bicarb. gr. 60.

Decoct. cinchon. ℥vj.

℥j. cum. succ. limonis ter die sumend.

Sunday, 5th day.—In much the same state—restlessness and delirium. Menstrual flow set in at night, about the regular time.

Monday, 6th day.—Pulse 96; respiration 63; temperature not taken. Eruption more raised, and vesicular appearance better marked; less hyperesthesia; hardly conscious; continue treatment.

Evening.—Pulse, 116; respiration, 48; temperature, 102°·9. Sleeping, but very delirious. From this time she sank rapidly, and died calmly at seven a.m., next morning.

Autopsy—Four and a-half hours after death.—Spots unchanged in appearance. Over one spot on the *right* leg a large vesicle had formed, containing a considerable quantity of serous fluid. It will be remembered that it was in this, the *right* leg, that the pain first set in at the beginning of the patient's illness. The cuticle was not stained by the extravasation, as it was found normal in colour on raising it from off one of the spots. On the chest some brownish petechiæ were visible. The head was less retracted than during life, and there was no rigidity of the muscles of the neck.

On removing the brain, the arachnoid covering Willis's circle was found thickened and inflamed. In the sub-arachnoid spaces, and along the course of the chief vessels, small depositions of lymph were noticed. The pia mater was much congested.

The spinal cord throughout was healthy, nor was there any lesion of its membrane.

The thorax and abdomen were not examined.

CASE II.—Setting in with pyrexial symptoms; almost immediate prostration; delirium; hyperesthesia; stupor; death sixty-four hours from first seizure.

Mary Jane Commerford, aged thirteen, daughter to a nurse in the hospital; always enjoyed moderately good health; had not menstruated.

Took ill at seven a.m., Wednesday, April 17th, 1867, the symptoms being shivering, headache, pains, great thirst, nausea, and frequent vomiting of a dark green substance. These were soon followed by great depression. During the day she became very restless, spoke but little, and towards evening began to wander.

Early next morning she was found delirious, and very restless, with great congestion about the face. Leeching at the mastoid process relieved her. At half-past nine a.m. she was almost unconscious, answering no question, nor taking any notice when spoken to.

The face was much congested; the eyes like those of typhus, except that the pupils were dilated; there was no noticeable strabismus; the skin was dusky; on the face were one or two small spots, many on legs and arms.

These spots were small, smooth, and *not* raised—though afterwards some became slightly elevated towards their centres.

There was no vesicular appearance, as in Case I. Each spot had a well-defined margin; they were indelible on pressure.

When touched, she moved restlessly, but made no complaint of pain.

No physical signs were detected on examination of the chest and abdomen. The heart was very weak. There was constant vomiting of a greenish fluid, transparent, but semi-viscid. The tongue was covered with a creamy white fur. She had eaten nothing since the first attack.

Pulse, 124; resp., 44; temp., 98°·2 only.

In the evening in the same state; spots rather larger. Has had two injections of beef-tea, with quinine; also small doses of chlorate of potash in porter, by the mouth, but this, after a short time, she refused.

Friday, third day.—More conscious this morning; can be roused by loud speaking; slept very indifferently; vomiting still continues; motions from the bowels somewhat greenish; passes water well, it is light coloured, and on inspection seems free from anything abnormal.

Pulse, 104; resp., 24; temp., 96°·7.

Evening.—Vomiting ceased; takes some notice if roused; not so restless; if left alone falls into a heavy sleep, with loud stertorous breathing.

Pulse, 80; resp., 24; temp., 98°·6.

At ten p.m., she rose from bed, walked about the ward, and spoke to her mother. After a short time her mind began to wander. She fancied she saw some one sitting at the fire beside her mother. (who was alone). Heavy stertorous breathing came on, and without rallying she died at eleven p.m., after sixty-four hours' illness.

No *post mortem* examination.

CASE III.—Beginning with head symptoms; illness attributed to fright. Much stupor. Pustular eruption on legs, red spots on arms. State improved by stimulants. Range of temperature resembling that of typhus. At present (Saturday, May 11, eighteenth day) almost convalescent.

Mary Maguire, aged twenty-six, a nurse in Mercer's Hospital (only eleven weeks in this situation), ill since Wednesday, April 24, 1867, on which day she was much frightened by a patient who was brought in in "delirium tremens." Her head became immediately affected. She had rigors and green vomiting. Soon afterwards she fell into a drowsy state, neither speaking nor answering when spoken to. On Saturday night a rash appeared on the legs. The trunk was almost free from this. She was admitted Sunday evening, April 28.

Monday, sixth day.—In a drowsy stupid state, eyes closed; slight converging strabismus; pupils dilated. No retraction of the head; slight hyperesthesia. No nausea; no vomiting; bowels confined; tongue (protruding towards the right side) covered with a dirty creamy fur.

Passes water at times involuntarily. Heart sounds weak, but regular; no chest signs.

Eruption.—Round the mouth was noticed a complete ring of herpetic vesicles. On the chest two small pustules were seen. On the legs were many of these—some of them just commencing to form, others withering and dried up. Each was surrounded by an inflammatory areola. They closely resembled the rash of varioloida. On the arms, especially near the elbows, there were seen large reddish spots, slightly elevated, and with sharply defined margins, the counterparts of the spots in case I., except in colour, and in their being delible on pressure.

Treatment.—Abundance of nourishment, stimulants in moderation, and full doses of chlorate of potash.

Tuesday, 7th day.—Pulse, 104; respiration, 30; temperature, $100^{\circ}\cdot3$. More conscious; spots on legs fully out, also well-marked on arms.

Wednesday, 8th day.—Pulse, 104; respiration, 28; temperature, $100^{\circ}\cdot2$.

Thursday, 9th day.—Pulse, 112; temperature, $100^{\circ}\cdot8$.

Friday, 10th day.—Pulse, 112; respiration, 28; temperature, $100^{\circ}\cdot3$. Much better; spots fading; quite conscious.

Saturday, 11th day.—Pulse, 120; respiration, 24; temperature, $101^{\circ}\cdot7$. Spots nearly gone; no pustules on legs visible; sleeps well.

Sunday, 12th day.—Pulse, 120; respiration, 24; temperature, $98^{\circ}\cdot2$.

Monday, 13th day.—Pulse, 104; respiration, 24; temperature, $98^{\circ}\cdot3$.

Tuesday, 14th day.—Pulse, 120; respiration, 26; temperature, $102^{\circ}\cdot4$.

Wednesday, 15th day.—Pulse, 128; respiration, 30; temperature, $102^{\circ}\cdot9$. Not so well; rigors; skin much mottled; pupils greatly dilated. The shiverings passed off in an hour or so, and she became much better.

Thursday, 16th day.—Pulse, 96; respiration, 22; temperature, $97^{\circ}\cdot9$.

Friday, 17th day.—Pulse, 106; respiration, 24; temperature, $98^{\circ}\cdot9$.

Saturday, 18th day.—Pulse, 108; respiration, 24; temperature, $98^{\circ}\cdot0$.

Ordered wine, ℥x .

P.S.—This patient shortly afterwards left hospital quite convalescent.

The following case has great interest in connexion with the complication with measles, which disease supervened in the course of the purpuric fever, and seemed to suspend it. It is given in the words of the mother of the child:—

On Friday, the 8th of last March, my little daughter Mabel, aged six and a-half years, was suddenly seized with headache, shivering, and pains in the side and shoulder. She had always been a remarkably healthy child, never having had any illness, but I had observed, for some months, that she had been looking ill and pale, particularly so for a

few days before her illness, and her skin had a dark shade through it, as if dirty. On this day she seemed to be quite well; spent two hours at her lessons, and ate her dinner at two o'clock with a good appetite. It was about four o'clock in the afternoon when she complained. She was put to bed, and given warm drink, and as her little brother had measles at the time, we thought she was taking them. During the night her stomach was sick six times, and each time seemed to weaken her; she also wandered a little in her sleep.

9th.—On Saturday morning, when her father saw her, he observed spots of purpura about her eyes, forehead, and chin; a leaden-coloured appearance of the entire face, particularly dark and sunken round the eyes, with an appearance of blood under the membrane at the angles of the mouth, of a lighter shade than the other spots. The dark purple spots were scattered over the back, thighs, legs, and feet; those on the lower extremities were larger and more irregular than those on the face—some of them like drops or splashes of ink—while those on the face were more like grains of shot. Her father at once ordered her as much hot sherry and water as she could take, and mustard over the stomach, to stop the sickness, which, with headache, continued. Dr. M'Dowel saw her at eleven o'clock, and prescribed stimulants and mustard-plaster to the stomach. She now complained of pain in the back of her neck, in addition to the headache and sickness. Dr. Stokes saw her at half-past three in the afternoon, and also ordered stimulants. From this hour till six o'clock she was very weak, and became very restless, throwing her head violently about, and arching her back; legs and feet cold. Her father found the heart's action very weak; pulse scarcely to be felt; he ordered immediately a strong mustard-poultice over the region of the heart, hot stupes to the legs, and gave her an enema of chicken-broth and brandy; after this she became stronger, and when Dr. M'Dowel came late that night he found her flushed and feverish. The enemas were continued every three hours, sometimes adding Battley's sed. sol.

10th, Sunday.—Drs. Stokes and M'Dowel saw her at nine. Observed retraction of the neck; very sick all day, and great pain in back of the neck.

11th.—On Monday morning, while Dr. Stokes was in the house, the knuckles of both hands suddenly swelled, and became of a pinkish colour, and painful. She was given prussic acid draught, which stopped the constant sickness.

12th, Tuesday.—The purple spots were paler, but some new ones appeared on her feet and ankles, which were swollen.

13th, Wednesday.—Very feverish and sleepy, and coughed a good deal.

14th, Thursday.—Measles came out all over her; she seemed easier.

15th, Friday.—Measles still very red; during the night very restless, and on

16th, Saturday morning, several new purple spots appeared on the feet, and the measles quite faded. Dr. Stokes saw her this afternoon, the ninth day of her illness. He ordered a great deal of nourishment, wine, &c.

17th, Sunday.—Continued much the same.

18th, Monday.—Great headache; the left eye squinting. Dr. Stokes saw her. Stopped giving wine. For several days after this she lay in much the same state, very feverish, and sleeping almost constantly. Dr. M'Dowel, who saw her constantly, finding very little change from day to day.

25th.—On Monday, the eighteenth day of her illness, an eruption of "Shingles" came out on her back, and increased till it was very nearly round the body, being worse on the back and chest; some of the spots very sore, and continuing so for several days.

28th, Thursday.—Great pain in the neck, and paralysis of one side of the face; the left eye staring. Iodine applied to back of neck and front of ears.

30th.—She was very restless; no sleep at night; often shrieking out as if in pain.

April 4th, Thursday.—Sickness of stomach; very weak.

5th, Friday.—Again sick stomach. Drs. Stokes and M'Dowel saw her. She slept badly, and had a continual painful kind of moan, with occasional sharp screams.

6th.—Up to this, from the beginning of her illness, she knew every one when spoken to, and answered every question quite correctly, often asking the hour, day of the week, and month, and apparently quite conscious.

8th, Monday.—She was very nervous and restless.

9th, Tuesday.—Carried on a mattress into another room quite unconscious of the movement; her stomach very sick that night, then lay so quiet that her father went over to examine her, and found her very low and weak; very weak pulse. Gave her brandy, and applied hot stupes to legs and feet, which it was almost impossible to keep warm.

10th, Wednesday.—Again sick stomach; no sleep; incessant moaning, and the eyes kept constantly twitching and squinting; the head very much thrown back; extremities cold.

11th.—On Thursday morning, the thirty-fifth day of her illness, her father shaved and blistered the top of her head, then had the whole head shaved and blistered.

Drs. Stokes and M'Dowel saw her and ordered calomel. About noon she appeared relieved; the eyes better, and she was quieter; that night she was again very weak.

13th, Saturday.—Small boils came out on the back and chest; she was very restless and nervous for several days, often crying for hours, and only soothed by her sisters singing to her.

21st.—A large abscess on the shoulder was opened ; still restless and nervous.

24th.—A second abscess opened. She had several smaller ones, which gave her great pain on the head, back, and hip.

26th.—From about this day there appeared to be a very slow but gradual improvement. She was quite sensible and correct in everything she said, and knew everyone, but did not remember anything of her illness.

May 8th.—She was lifted on to a small bed on castors, and was wheeled into another room, and back again at night ; this has been done every day since, and she enjoys the change, but is still extremely nervous at being touched or moved.

22nd.—She remembers nothing further back than about ten days ago, which would be about the sixty-fifth day of her illness, but her memory is perfect as to everything before she was taken ill. She has now a good appetite, sleeps well at night, and enjoys her books and toys ; her eyes are quite straight, also her mouth, except if she cries it is a little drawn down at one side.

I forgot to mention that during the whole of her illness, she continually complained of shooting pains in almost every part of the body, particularly in the forehead.

Dr. ATTHILL read the following:—

A. G., an infant at the breast, aged nine months, was attacked on the 14th March with purging and vomiting, accompanied by heat of skin and great restlessness. On the evening of the same day the mother observed a red spot about one inch above the inner ankle of right leg, this was slightly elevated, and, in the course of a couple of hours, became of a dark purple colour ; numerous similar spots, but of smaller size, appeared in rapid succession on both lower and upper extremities, while, at a later period, three well-marked spots came out on the upper lip to the right of the mesial line. I saw the child at two o'clock p.m. on the following day (the 15th). The upper and lower extremities were then thickly covered with black spots, the majority were about the size of a split pea ; some again very small, others much larger ; among the latter was the one first observed on the inside of the right leg, which was as large as a fourpenny-piece ; another of immense size was situated on the back of the left leg, two inches above the heel, it was oval in shape, being one and a-half inches in length, and three quarters of an inch in width. There were also some spots on the buttock, but the trunk and neck were perfectly free from them.

The child was pallid ; the surface of the skin was, to the touch, apparently of the natural temperature ; the eye appeared sunken, but

otherwise the face did not present any remarkable appearance; he seemed, however, to be much distressed, was very restless, constantly whining and dragging at the mother's breast.

Vomiting had ceased, but the diarrhea continued, the evacuations being pale and watery. There was not at this period the slightest symptoms of derangement of the nervous system.

Looking at the case as one of aggravated blood-poisoning, I put the child on the following mixture:—

Chloratis potassæ, gr. 30.
Tinct. ferri perchloridi, M. 30.
Sp. chloroformii, M. 30.
Aquæ, ℥iv.

A teaspoonful to be given every hour. Also, with the view of checking the diarrhea, I ordered two grains of the powder of chalk with opium, to be administered every three hours. On the following morning the child's condition had somewhat improved, the diarrhea had ceased. No fresh spots had appeared, and those already in existence were unchanged in appearance. On the 17th, the general condition was much as before, but the centre of each spot now assumed that sunken silvery appearance which has been observed in many cases of this peculiar disease. I did not in any way vary the treatment. Up to this time there was not any symptom indicating a lesion of the nervous system, but on the 19th March, that is, on the sixth day from the first appearance of the spots, the mother remarked that the child had lost in a great degree the use of the right arm and leg. On examining the limb I found this to be correct. The limbs were not completely paralysed, but the power of moving them was much impaired; there was also slight œdema of the right arm, with increased sensibility of the affected side, manifested by the child's crying when the affected limbs were touched, or if laid in the cradle on that side. From this period the child slowly but steadily improved. At the end of a fortnight it had regained the use of its limbs, and the spots, with the exception of the large one on the back of the left leg, had nearly disappeared. The mischief here, however, was too great to be removed by the process of absorption. Inflammation set in round its edges, and a slough, exactly similar in appearance to that caused by a superficial burn, was thrown off, leaving a large sore, which gradually healed up. The child recovered perfectly. This case was also seen by Drs. Head and Bennett.

I look on this case as one of much interest, bearing as it does on the disputed question—whether the epidemic of cerebro-spinal meningitis, and that marked by these black spots are separate diseases or different manifestations of the same poison? This case exhibited from the very commencement, in a marked manner, the black eruption, while the

cerebro-spinal symptoms manifested themselves at a much later period, thus supporting, I think, the opinion that the diseases are identical.

Dr. HAYDEN read the following:—

CASE I.—Miss C., aged nineteen, of general good health, but subject to menorrhagia and occasional headache, was suddenly taken ill with acute pain in the head, accompanied with a feeling of tenderness all over the body, on Wednesday, October 24th, 1866. The pain having become more severe, she was visited within a few hours after her first illness by a medical man in the neighbourhood. She was then pale; skin rather cool; pulse regular and not remarkably quick; slight sickness of stomach, for which an effervescing mixture was given. In the course of that night the headache became still more urgent, and on the following morning the face was flushed, and other symptoms of high febrile action were present. Six leeches were applied behind the ears, and six grains of calomel were given at once.

I saw the patient in consultation at a quarter past one p.m., on the 27th. The face was then pale; pupils contracted, and eyes averted from the light, which could not be borne. There was constant moaning and complaint of pain in the vertex and back of the head. Pulse 66, labouring and irregular. There was a murmur with the first sound of the heart, audible at the base. The head was shaved and blistered, and subsequently dressed with mercurial ointment, gr. i. of calomel was given every hour, and a warm foot-bath, containing mustard, to be frequently repeated. I saw her again at half-past seven that evening. The pulse was then 84 and full; respiration rather laboured; tongue moist; skin warm and moist; no cutaneous hyperesthesia or sickness of stomach; bowels and kidneys acting regularly; mercurial inunction to be continued.

October 28th.—I visited the patient at ten o'clock this morning, and found her much improved; she had slept several hours in the course of the night; pulse 90, regular, and moderately full. No cardiac murmur was then to be heard; she lay with the head retracted, and avoided light; there was partial ptosis of the right eye. A number of dark blotches resembling vibices, and not affected by pressure, had appeared upon the hands, arms, and legs, since last visit.

29th.—Diarrhea of a biliary character, and slight pain in the head last night; the latter had ceased at the time of visit, but the skin was hot; the conjunctivæ injected; the pulse 102; and a systolic murmur was again audible at the base of the heart.

No urine had been passed since six o'clock p.m. on the preceding day; patient menstruating. The calomel was stopped, and ℥ss. of mercurial ointment was directed to be rubbed into the groins and axillæ alternately, twice a day. A pill consisting of gr. ss. of powder of digitatis, and gr.

iii. of compound squill pill was ordered to be given three times daily; simple chalk mixture to check the diarrhea; and warm jars to be applied to the feet.

30th.—Ten a.m., patient much better; slept last night; pulse 96; skin cool; urine passed in large quantity during the night; conjunctivæ no longer injected. Finding the patient so much improved I took my leave, deeming it unnecessary to continue my attendance, and leaving her in charge of her ordinary medical adviser. On the afternoon of that day (October 30th), at six o'clock, she suddenly became alarmingly ill; "rattles" were heard in the throat, she became pulseless and cold, but continued to be conscious. Within a few minutes she was visited by the medical man in charge of her, and died in his presence shortly after his arrival, without convulsions, and apparently of syncope.

Thus, this girl's illness commenced with pain in the head, sickness of stomach, and high fever. Four days subsequently there were contraction of the pupils and photophobia, injection of the conjunctivæ, ptosis, retraction of the head, and dark ecchymosed blotches on the surface. There can be no doubt, therefore, that the cerebro-spinal symptoms preceded the cutaneous, and in this case assumed the importance of primary manifestations.

CASE II.—Miss C., aged nineteen, residing a short distance from Dublin, was attacked with bilious vomiting on getting out of bed on Tuesday morning, April 23rd, 1867. On the evening of that day she was seen by Dr. Monks, who found her slightly incoherent, and the entire surface of the upper and lower limbs mottled with a dark red rash, interspersed with a few unhealthy looking vesicles. A blister was applied to the nape of the neck, and gr. v. of sulphate of quinine were given every fourth hour. At seven o'clock the following morning Dr. Monks was hastily summoned to visit his patient, and found the red spots now become dark and much larger, and the patient in a state of alarming prostration. On the preceding evening he had expressed suspicions as to the nature of the affection, but he now fully diagnosed it as an example of so-called "Black Death."

I saw the patient, in consultation, at ten o'clock on the morning of the 24th. She was then unconscious; pupils widely dilated and insensible to light; veins of scalp distended; loss of power of deglutition. Liquids introduced into the mouth immediately flowed out. She was remarkably restless, and struggled to get out of bed. The feet, legs, thighs, and buttocks were sparsely covered with dark spots of irregular figure, and varying in size from that of a grain of shot to a shilling-piece. These spots were in colour nearly black, slightly elevated, and not affected by pressure. Amongst these were dispersed, at long intervals, a few small undeveloped pustules.

The eruption was likewise visible on the hands, arms, and neck, and in a much less degree on the face and trunk. The general surface of the skin was of a dusky hue, and cold. Pulse 138, and weak, but regular; respiration unaltered; evacuations involuntary. The head was directed to be shaved and blistered, and then dressed with strong mercurial ointment.

C enemata of sulphuric ether and spirit of turpentine—of each ʒi. , with ʒss. of brandy in ʒii. of strong beef-tea, to be given every second hour; the quinine to be continued, and small quantities of brandy given by the mouth at intervals.

On the evening of that day, when seen by Dr. Monks, she was conscious; the pupils were less dilated, and fluids were swallowed readily.

On the morning of the 25th a still further improvement had taken place, but in the afternoon the patient had lost ground, and was much weaker, and at one o'clock that night, after a convulsive spasm, she died, evidently of asthenia.

It was subsequently discovered that the nurse in charge of the patient, conceiving herself entitled to have an opinion, and in the exercise of it, considering that the stimulants had disagreed with the patient, discontinued them, contrary to orders after the last professional visit. To this circumstance the sudden unfavourable change in the patient's condition is probably due.

Opposite the window of the room in which this girl slept, and about eight yards distant from it, was a cow-shed, in which cattle were fattened for the market, and in the room itself the air was disagreeable and oppressive.

In estimating the diagnostic value of symptoms, it is necessary to distinguish primary or essential, from secondary or accessory phenomena; and in making this distinction, the order of succession, and the pathological relationship of the symptoms should be considered.

Judged by this rule, I feel bound to say that the cases which have come under my observation tend to support the opinion of Dr. Gordon, that the disease which has recently appeared in this country, and received the provisional designation of "Black Death," is only cerebro-spinal meningitis, with the accessory manifestation of cutaneous ecchymoses and eruption. I grant that there is great difficulty in explaining the genetic connexion between the pathological and vital conditions indicated by these two groups of symptoms—namely, an inflammatory organic lesion of the cerebro-spinal meninges, and deterioration of the blood.

Short notes of two cases, under the care of Mr. DARBY, of Bray:—

CASE I.—Margaret Brady, aged fifteen years, admitted to the Rathdown Hospital, at two o'clock p.m., 22nd March, 1867, reported as

having been in perfect health up to the evening of 19th inst., when she was suddenly attacked by a rigor, followed by a convulsive fit, after which she totally lost her hearing, complained of headache, and vomited.

On admission her skin was hot ; pulse quick ; tongue clean, but fringed with aphthous ulcers, as if the edges had been bitten ; her eyes were bright, watchful, and wild, pupils medium size, acted slowly under the influence of strong light ; her head drawn sharply back upon the neck ; was constantly muttering, moaning, and grinding her teeth. She cried out whenever any part of the surface of her body or limbs was touched. Spots of a dark colour, nearly black, of varied form and size, were found on the fore-arms and legs, resembling, for the most part, the marks of an itch or other papular eruption that had recently died away. There was also an ecchymosed patch on the right thigh. For two days after admission fresh spots continued to appear, and some of the old ones began to fade to a greenish-yellow, and some to disappear altogether.

On the 27th all the spots were fading.

On the 1st April there was not a trace of any eruption or discolouration on the skin ; other symptoms continued without any marked alteration. The girl wasted, sunk gradually, and died of exhaustion on 23rd April, 1867.

The *post mortem* revealed lymph on the surface of the pons varolii and medulla oblongata ; about four ounces serous fluid in the ventricles extended into the spinal canal. The membranes of the cord were much congested.

CASE II.—Thomas Carroll, aged ten years, was admitted to hospital, from the workhouse school, on the 11th April, 1867. Reported not to have eaten his food well on the previous day, and spat up a little blood ; on rising from bed this morning some red (blood) spots were observed on his skin, he spat up more blood, and was consequently sent to hospital. I found him at noon lying quietly in bed, not complaining ; his pulse was 90 ; tongue furred ; gums bleeding ; skin cool. Face, limbs, and trunk were thickly dotted with black spots, elevated slightly, and varying in size from a grain of shot to that of a pea. Two ecchymosed patches—one the size of a shilling, the other as large as a penny-piece—were observed on his legs ; his belly tumid. Ordered an oil and turpentine draught immediately, which produced a copious, tar-like stool, free from smell. Lemon juice was freely given, and ten drop doses of spirits of turpentine every fourth hour. This treatment, with nourishing diet, was continued up to 22nd (eleven days), when he was discharged cured.

I have thought that some analogy existed between these two cases, as some of the spots on the skin in either case bore a strong resemblance to the other—the local inflammation in the case of Brady being altogether absent in Carroll, forms the chief feature of difference between them, and

as that is a point in the prevailing epidemic disease upon which a difference of opinion exists in the profession, I place the case in juxtaposition.

The following letter was read from Dr. CROOKE, of Macroom:—

“May 6th, 1867.

“DEAR DR. BELCHER,—I have read with great interest your case in *The Medical Press and Circular* of May 1st. . . . I entertain no doubt that it was a case of fever. I have attended in the Fever Hospital here, during the past twelve months, six cases closely resembling it in most of the details. I may state that I treat in this hospital an average number of about twenty throughout the year; they are chiefly household servants, male and female, sent in from a wide area of country. They are usually well fed and nourished. If a change is made in Cullen’s aphorism thus: “*Initio febris gastricus, progressu et versus finem typhus,*” it will describe this form of fever. The first case of this class which I treated last year occurred in the month of February, and bore a resemblance to yours, so remarkable that I will give you an extract from my notes of it:—S. W., aged twenty, nursery governess to Lady —, a tall fair German, of considerable personal attractions, and of nervous temperament. Her illness, as in your case, was caused by exposure to cold. During the first ten days she suffered from gastric fever with bilious vomiting; pulse not above 90; there was considerable prostration of strength, slight headache, and heavy pains in the back and thighs; excessive sleeplessness; thirst; tongue red at the edges, foul occasionally in the centre, and generally moist. At the end of ten days there was a complete remission for thirty-six hours, and I thought she was going to get well, but a different train of symptoms followed. Sleeplessness returned, and with it delirium appeared for the first time, then followed jactitation of the limbs, picking of the bed-clothes, tympanitis, involuntary evacuations, coma, and death ensued on the eighth day of the second stage. The duration of her illness was thus eighteen days, about the same as in your case. On the day following her death her countenance became of a livid, almost purple colour; her stomach became enormously distended on the next day; her face was almost quite black; there was a putrid odour in the room, and, as it was evident that decomposition was advancing rapidly, I had her removed to her grave without further delay. I have notes of five other cases treated during the past year, two males, and three females—all were young, ages 16, 19, 20, 20, 22 years. The gastric stage varied in duration from seven to ten days; the typhoid stage from nine to fifteen days—all recovered. In each of these five cases the attacks were distinctly traceable to contagion, pure typhus having existed in each house from which they were brought. In three of these cases an abundant eruption of petechiæ occurred when the typhoid

symptoms occurred. Do you not think that the disease, termed by Dr. Mayne and others 'cerebro-spinal arachnitis,' is a specific fever of a malignant character, and that the inflammation of the membranes which invest the brain and spinal marrow, is one of the effects of a poisoned and morbid condition of the blood, and not the essence of the disease? There is nothing new in specific fever terminating fatally within twenty-four hours; when malignant scarlatina prevailed it was not uncommon to meet cases which succumbed to the disease within this period. I witnessed at least twelve such, and heard of many others. The leading symptoms were bilious vomiting, low delirium, rapid prostration, coma, and death. The term "Black Death" may well have been applied to some of these cases; for, within twenty-four hours after dissolution, the countenance assumed a dark purple hue, and decomposition set in so rapidly that the remains had to be hurried from the view of the horror-struck relatives. I shall never forget one dreadful instance of this kind which happened in my neighbourhood, when a most promising young man of nineteen was carried off by this dire disease in about eighteen hours from its first invasion. I am no believer in this new 'sensation tale,' that the 'Black Death' of the 'middle ages' has reappeared. . . . I am, Sir, yours, &c.,

"WARREN CROOKE."

At the meeting of the Medical Society on the evening of Friday, the 24th May,

The President, DR. STOKES, in the Chair.

Dr. HERBERT said he was present in consequence of a request conveyed to him by Dr. Guinness, to report some cases of black death alleged to have occurred in the 5th Regiment, during the service of its late surgeon, Dr. Barclay, who had joined the 54th Regiment. He regretted to say that he knew nothing whatever of the cases alleged to have occurred in that regiment. He had heard of some cases of fever which assumed the encephalous form, accompanied by spots of typhus fever, but these were not cases of black death—at least, he did not so consider them. There had been no official report of the cases, but he had written to Dr. Barclay on the subject, and had not yet received an answer. There was one case of black death under treatment in the Hospital of the 5th Regiment. This case occurred during his absence, and he had received the notes of the case taken by Dr. Skene. The soldier, who had been previously a healthy man, was admitted to hospital, complaining of headache and rigors. Some time after admission he vomited. His pulse was at first very frequent, amounting to 130 or 140 beats in a minute. The extremities were cold; his tongue was cold, and clayey white at the edges, and a dusky brown in the centre. He complained of great thirst, and

pain in the head. About eighteen or twenty hours after admission, he complained of intense pain in the right eyeball; sickness of stomach took place; it was treated with soda water and milk, and a mustard-blister was applied to the epigastrium. There were symptoms of encephalitis, and twenty-four hours after admission, spots of the size of a sixpenny-piece appeared over his body, and in a few hours increased to the size of a shilling, and in three or four hours afterwards, to the size of half-a-crown. He was treated with stimulants—beef-tea enemata, &c., and was reported by Dr. Skene to be progressing well. Since Dr. Skene had gone on leave of absence, mortification of both feet had set in—one patch, as large as an ordinary lozenge box, being over the ball of the right toe, and on the opposite foot there was a mortified patch under the ball of the little toe, about the size of half-a-crown. These spots of superficial mortification had been rubbed with a stimulating embrocation, and the whole depth of the integuments had sloughed away.

Dr. LAW said he desired to bring under the notice of the Society some cases of what was called cerebro-spinal meningitis. The peculiar phenomena were, remarkable prostration of strength, with violent pain of the head, and pain proceeding in the direction of the nerves of the spine across the body, a sense of constriction extending down the arms and legs, reminding him strongly of the complaints that were made by the patients in the fever of 1848, an aggravation of those symptoms that the French call *malaise*, *fidgetiness*, and the patients commonly complained of pains in the bones. He brought forward a group of ten cases before the Association, and he mentioned at the time that he had no opportunity, inasmuch as there was no fatal case of ascertaining what the lesion was. At that time he proposed the question, what was the real pathology of this disease? Was it essentially an affection of the spinal system, or was it to be looked on as involving the nervous system? In the end of last June a case was brought into Sir Patrick Dun's Hospital. It was a young female, aged twelve years. She had been bathing the day before, and gone to bed perfectly well, but awoke in the night screaming with violent pain of the head and sickness of the stomach. The pain in the head and sickness of stomach, and vomiting continued until she was brought into the hospital at four o'clock on the next day. She was then in a state of complete collapse, the pulse scarcely to be felt, the body perfectly livid, a deep blue stained colour, with a remarkable eruption especially on the left leg. There were spots, maculæ varying in size. First of all there was a general dark colour of the whole body, and then there were patches of ecchymosis along the limbs with elevated spots, and a remarkable tubercle on one leg. The vomiting continued for some time; she had remarkable hyperæsthenia, extreme restlessness, could scarcely be kept in bed, worked strongly in convulsions, and especially on the left side. However, the convulsions were choreac movements rather than epileptic

convulsions. The only thing that could be done was to sustain her as best they could. Everything which they gave her was rejected, and enemata of brandy and beef-tea were the only means by which her strength could be sustained. They applied belladonna down the back, and as soon as she could swallow she got pills consisting of mercury, quinine, and extract of belladonna. The giving of belladonna in this case was suggested by an interesting case of Dr. Byrne's, where it was found most effective in relieving tetanus, and he (Dr. Law) was astonished to see how greatly the convulsions ceased on taking it for a short time. On the second day of illness the head of the girl was violently retracted, she complained of a most agonizing pain in the head, especially over the occiput. A blister was applied here, and afforded her a little relief, but not much. On the fifth day after admission she complained of the most violent aggravation of the headache, and this was shortly followed by copious epistaxis, and from that time forward her head was completely relieved. They gave her mercurials, the mouth was slightly affected, and on the seventh day she began to improve, and accordingly as she improved the eruption on the extremities began to fade, and on the fourteenth day she was pronounced convalescent. The head was still retracted, producing a peculiar appearance. No matter in what direction she placed herself the head was rigidly fixed, and the muscles would not admit of any motion. The case went on, she improved up to the end of the month, when he lost sight of her. She then became Dr. H. Kennedy's patient, and he told him that when she came under his care she had sickness of the stomach. He was surprised to hear that the child had relapsed, and on inquiry was told by the nurse that she had taken something which disagreed with her. Now, he (Dr. Law) thought this was a connecting link between these extraordinary cases that occurred as the first epidemic, and those that afterwards appeared and were called the black death. It was better that that name should be given up. He thought it an unfortunate name, for it led people to expect that this disease would be something like the plague. He should mention that a case similar exactly to the one he spoke of had come under the observation of Dr. Byrne, with this exception, that his case was of a worse type, for the patient died. Dr. Byrne thought it at first a case of cholera, and he (Dr. Law) should have thought so too, although they had not the sunken eye and whispering voice of cholera. Many of these cases of cerebro-spinal arachnitis were mistaken for cholera, and it was a remarkable fact that it had always followed in the wake of cholera.

Dr. AQUILLA SMITH observed that some of the gentlemen who had communicated cases of this disease had spoken of it as "black death." The members of the profession generally were well aware of the great alarm which had been caused in the city in consequence of this name having been given to this form of fever; and it appeared to him desirable that

there should be some expression of opinion on the part of the Society to repudiate the term "black death" as a name for this disease. Every one knew that the black death of the middle ages was a true buboe plague, and had no similarity to the form of disease which they were now considering. He was very glad that Dr. Lyons had pleaded guilty to having given the disease a very bad name. It would be in the recollection of the meeting that Dr. Lyons suggested that it should be called "black fever." He objected to that name also—the word "black" being calculated to cause much unnecessary alarm. From what he had heard of the nature of the disease, he should be inclined to term it malignant petechial fever.

The PRESIDENT said the meeting was indebted to Dr. Smith for his observations. The term black death was an improper term. The black death of the middle ages was nothing but the plague of the Levant that had spread over Europe. Dr. Lyons had given up that name, and he was quite sure it would be the feeling of the meeting that the name should be forgotten. It was not very easy to invent a name for this disease. It was his intention in the concluding observations which he would make that evening, to propose the name of "malignant purpuric fever." Still, no doubt, it was a special and most peculiar disease, and a disease which, although it had been observed in other countries, and long observed in America, was, so far as he could see, new to this country.

Dr. DARBY said he had been looking into Hecker, and he thought there were some grounds for justifying Dr. Lyons on the first blush of the moment, in giving the disease the name which was now objected to. He thought there was something very analogous to the cases they were now discussing related in Hecker—the vomiting, bleeding, and head symptoms were all described, and there was no very remote difference between them, except in the absence, in this disease, of the buboes. There were black spots, discharges of blood, and head symptoms common to both. He wished to bring under their notice two cases which came under his observation. A girl, fifteen years of age, was sent into his hospital from Kingstown, on the 22nd of March. Her head was thrown back; she had spots on the skin; grinding of the teeth, and convulsions. She died in four or five weeks after admission. He made a *post mortem* examination, and found lymph in the pons varolii, and congestion of the membranes of the spine. The spots which were on the body faded away, and, as they disappeared, they assumed that yellow and green appearance exhibited in the disappearance of a common bruise. Death, which occurred in the last week of April, took place apparently from exhaustion. All the time of her illness the patient had grinding of the teeth and retracted head, and the retraction continued till within two days of her death. What struck him as remarkable in this case was, that the spots faded, becoming green and yellow, and drab-coloured, for some time before she died. He

had another case in his own institution, of a boy who was attacked with acute purpura hemorrhagica. That boy recovered, and the spots on his body pursued the same course as in the case of the girl, assuming different shades of colour, and gradually disappearing. It struck him that there must be some peculiar epidemic character in this disease, for he had heard of several friends of his having lately seen cases of purpura, which was not a disease met with every day. One of the cases which he had mentioned certainly had spinal arachnitis.

Dr. LAW said he desired to propound the question. What is to be regarded as the real pathology of this disease? From what he had seen himself, and from what he had heard, he confessed he looked upon it, no matter how modified, as cerebro-spinal arachnitis. The very interesting details which they had had from several members, and especially those presented by Dr. Haverty, confirmed him in this opinion. Every one of the cases mentioned by Dr. Haverty exhibited distinct signs of inflammation of the membranes of the base of the brain. If the pathology of the disease did not consist there, what was it? Was it a modification of fever? If it were, it was unlike any fever they had ever seen or known in this country. They had never known or met with a case of fever terminating fatally in sixteen hours, and perhaps there was no place where they had unfortunately a better opportunity of seeing fever in all its modifications, than in this country. They had never seen anything of this kind in fever, nor had they seen fever complicated with this affection of the spinal membrane. On the contrary, most persons who had directed their attention to affections of the nervous system had observed the appearance of eruptions in such cases. He alluded especially to Dr. Handfield Jones, who, in his Lumleian work on diseases of the nervous system, observed how frequently these eruptions on the skin are found to be associated with purely nervous affections. He alluded to a case in which a person presented on the skin an eruption like bad scarlatina; and in other cases it was not an unfrequent thing with surgeons in operation to observe these eruptions on the skin, resembling the purple spots in the disease now under consideration, and which took place when there seemed to be no other lesion than the shock of the muscular system. They all knew how nervous impressions led to this kind of bleeding—extensive purpura, with bleeding from the gums. They might recall a case of a gentleman who died from bleeding, caused by mental impression, and where these large purple patches presented themselves before death. Every case that had yet been brought forward exhibited marks of inflammation of the membranes of the brain, and therefore he thought they were warranted in supposing that there was an intimate relation between this disease and cerebro-spinal arachnitis. There was certainly no fever ever yet met with in this country, at least, that had exhibited this peculiar condition of the nervous system. If there be any modification

of fever to which this disease could be referred, it was not any fever with which we were familiar, but it might be the intermittent fever which occurred in other countries.

Dr. QUINLAN thought the expression "black death" was not a bad one, as descriptive of the peculiar feature of the disease. The black death which devastated Europe in the middle ages was the plague of the East, which existed at the present day, and came over to England in consequence of the low sanitary condition in which England then was. He believed that when the plague invaded England on that occasion this country had the same fortunate exemption from it which it had from the rinderpest last year. He thought the expression black fever, if it did not express the very nature of the disease, was not altogether inappropriate.

Dr. AQUILLA SMITH, in reference to the statement made by Dr. Quinlan, that the "Black Death" had not reached Ireland, directed the attention of the meeting to the brief account of the pestilence given in Clyn's "Annals of Ireland," published by the Irish Archæological Society in 1849, which is of great historical value on account of the very scanty information given in Hecker's admirable history of the "Black Death," respecting the progress of the pestilence in Ireland, which is composed in the following words: "Ireland was much less heavily visited than England. The disease seems to have scarcely reached the mountainous districts of that kingdom."

Clyn's account of the "Black Death" in Ireland:—

"Item hoc anno [1348] et maxime mense Septembri et Octobri convenerunt undique de diversis partibus Hiberniæ, episcopi et prelati, veri ecclesiastici et religiosi, magnates et alii, et communiter omnes utriusque sexus ad peregrinationem et vadacionem aque de Thaht-Molingis (St. Moling's, Co. Carlow) turmatim et in multitudine, sic ut multa milia hominum simul illuc multis diebus convenire videres, quidam venerunt devocionis affectu, alii (sed plures) pestilencie metu, que tunc nimis invaluit, que primo juxta Dubliniam apud Howht [Dalkey—in *marginē*] et Drovda [Drogheda] incipit, ipsas civitates Dubliniam et Drovda fere destruxit et vastavit incolis et hominibus. Ita ut in Dublinia tantum, a principio Augusti usque nativitatim Domini xiiij. millia hominum mortui sunt. Ista pestilencia sic erat contagiosa quod tangentes mortuos vel inde infirmos incontinenter et inficiebantur et moriebantur, et confitens et confessor simul ducerenter ad sepulchrum. Et pre timore et horrore, pietatis opera et misericordie, videlicet, visitare informos et mortuos sepillire, homines excercere vix audebant. Nam multi ex antrace et ex apostematibus, et pustulis que creverunt in tibiis et sub asellis (axillis), alii ex passione capitis et quasi in frenesim versi, alii spuendo sanguinem moriebantur. In conventu Minorum de Drouda xxv.

et in Dublinia apud eosdem xxiiij. fratus mortui sunt, ante usque Natalæ. Ista pestilencia apud Kilkenniam in xl^o. [*i.e.*—Lent] invaluit, nam vi^o die Marcii viij. Fratres Predicatores infra diem Natate obierunt, vix in domo unus tantum moriebatur, sed communiter vir et uxor cum natis eorum et familia unam viam, scilicet mortis, transierunt. Ego autem frater Johannes Clyn de ordine Minorum et conventu Kilkennie hec notabilia facta, que tempore meo acciderunt, in hoc libro scripsi, que ouolata fide vel fide digno relatu didici, et ne gesta notabilia cum tempore perirent et a memoria recederent futurorum, videns hec multa mala et mundum totum quasi in maligno positum, inter mortuos mortem exputants donec venial, sicut verauter andivi et examinaui sic in scriptorum redegi, et ne scriptura cum scriptore pereat, et opus simul cum operario deficiat, dimitto pergamenam pro opere contimando, si forte in futuro homo superstes remaneat, an aliquis de genese Ade hanæ pestilenciam possit evadere et opus continnare inceptum.”

Dr. McSWINEY said that the valuable observations which had fallen on that and on the previous night from the different gentlemen who had brought forward cases, would appear to him to clearly point out that within the last twelve or eighteen months there had been a number of cases of cerebro-spinal arachnitis, of the most fatal character, in Dublin; and, secondly, that there had been a malady which had been characterized by some competent observers as quite new, and the like of which they had never witnessed or even read of before. This latter malady was characterized by an extreme fatality, by the suddenness with which it occurred, and by a remarkable eruption, the nature of which was under consideration. The two cases which came under his observation rather rapidly served to illustrate in the most typical manner these two forms of disease. The were both cases recorded in the proceedings of the Pathological Society, one having been brought forward in the month of January, and the other in February last. One case of cerebro-spinal arachnitis, the subject of it being a little boy, was instantaneous in its invasion. There were no premonitory symptoms. He fell into convulsions, was severely tetanized, and died, without once regaining consciousness, in the seventeenth hour of his illness. The brain and spinal cord bore well-marked evidence of intense congestion. There was probably no time for the effusion of lymph, and the most remarkable pathological circumstance was that an inch and a-half of the spinal cord had undergone the most complete softening, and was broken up so as to resemble cream. This boy was unspotted, and the case was regarded as one of spinal meningitis. In a week afterwards a case most rapidly fatal occurred. It was that of a little girl, who was first seized by illness at eight o'clock in the morning, the first illness being marked by rigor, followed by nausea and then vomiting. The mother exhibited drinks from eight o'clock until eleven, each drink being thrown off almost immediately. At eleven o'clock

purple spots were noticed on the child's face, and the mother, becoming alarmed, then took advice. At three o'clock the child was dead—four hours after the purple spots manifested themselves, and eleven hours after the vomiting commenced. The brain and spinal cord were examined at the Pathological Society, and no pathological evidence of any lesion, save the single one of the diffusion of small spots of blood in the brain, was discovered in the child's body. What the decision of the Society would be as to the connexion or non-connexion of these cases, he could not, of course, anticipate. He was, however, of opinion that they were distinct diseases. He heard with some pleasure the recommendation to abolish that most inexpressive name which the disease had received, the more so as, at the meeting of the Pathological Society at which he brought forward the case, he for the first time proposed that something like a scientific nomenclature should be adopted. He stated that he knew of no disease which it resembled so much as purpura, and he proposed that it should be called malignant purpuric exanthem or malignant purpura. It might be within the knowledge of men who had extensive practice that there were threatenings at present of an epidemic of purpura. In the hospital which he was attached to, cases with purpuric symptoms were not rare. He had himself under his care, in an institution four miles from town, two ladies, sisters, of advanced age, who had large patches of purpura on their extremities, some black, some red, and some green, as the blood was dying away. In this case the disease was certainly not due to an insufficiency of food. Dr. Lyons, as they all knew, was under the impression that attacks of disease such as this purpuric fever, preceded great and wide-spread epidemics such as cholera.

Dr. BENNETT rose to bring forward a case which had occurred in Sir Patrick Dun's Hospital, presenting a *complication of pericarditis with symptoms of cerebro-spinal arachnitis, and the eruption of the present epidemic*. The facts of the case were as follows:—

A little girl, five years of age, was admitted into Sir P. Dun's Hospital on the morning of 15th March, having been ill for the three previous days. She lay with the head retracted, and the spinal muscles were rigid, the legs and arms were flexed, but not rigidly. She complained of intense pain in the head, and placed her hand on the forehead when asked where the pain was; her cheeks were flushed; the tongue was readily protruded, and was coated with a thick grey fur; the respiration was very irregular; some small spots which did not disappear on pressure were scattered over the arms and legs, a few were on the trunk, and one, the largest and most recently formed, was seated on the left eyelid. These spots were the same as those observed in the greater number of cases of the present epidemic, and where blood extravasations, some of them being raised above the surface, others ordinary petechiæ. The child suffered much from thirst, and swallowed water greedily. She was very watchful, and suffered much

from intolerance of light, her eyes were bright, and her pupils much contracted; her pulse was hurried, small and weak, but regular; the heart's action was strong and jerking; a loud and continuous murmur was heard all over the cardiac region, and was prolonged into the great vessels. On the sixth day a pericardial friction murmur was audible with the first sound, and a few days later facial paralysis of the left side occurred, while the tongue deviated slightly to the right. There was at this time a remarkable blush on the paralysed side of the face, while the opposite side was quite pale. The spots faded in a few days without any fresh crop appearing. The case went through a series of alterations until it seemed almost certain that death was eminent, and at one time the temperature was 95. Finally, after this the case had rallied, and had gone on to convalescence, with a diminution of the facial paralysis. He thought that the symptoms of this case warranted him in bringing it forward, as being referrible to the present epidemic, and he thought also the occurrence of facial paralysis, and also paralysis of the tongue, and the peculiar aspect of the face, exclusive of the more general symptoms, were very strong evidence that if the case had ended fatally they would have found the evidence of inflammation of the brain and cord. He brought the case forward for two reasons—first, as it presents the complication of cardiac inflammation, which, as far as he knew, had been observed in but one other instance during the present epidemic; and, secondly, as he believed that the case threw much light on cases recorded both by Dr. Mayne and Dr. Graves. In Dr. Mayne's case, which he published in the proceedings of the Pathological Society, a similar group of symptoms occurred, but no eruption. He being at the time engaged with cases of the former epidemic, recognized the case, and set it down as meningitis. After death the heart, which had not been examined during life, was found inflamed, and the brain and cord free from inflammation. Dr. Mayne published the case to warn others against what he thought was an error, and seems to have referred the symptoms in his case entirely to reflex irritation, due to the pericarditis. He (Dr. Bennett) thought it highly probable that Dr. Mayne's case was one of those that had been met with in the present epidemic, where, though the symptoms of inflammation of the brain and cord were present, the *post mortem* evidence was wanting, and in which it became necessary to attribute the symptoms to the action of a specific poison. Dr. Graves published a case in one of his lectures which presented most of the symptoms of the present epidemic, and in addition, a murmur, or rather murmurs, in the cardiac region of nearly identical character with the present case. Dr. Graves concludes that the case was entirely anemia. He (Dr. Bennett) was strongly inclined to regard it as identical with this case in every way—at least such an explanation was more evident than Dr. Graves'. He thought the consideration of these cases must lead them to conclude that the cerebro-spinal meningitis, while

it was the most frequent pathological result of the specific poison of this epidemic, was not the necessary one. They must refer all the cases to one cause not for the first time acting, not different absolutely from the poison of 1846, but varying from it in its greater tendency to produce cutaneous eruptions as one of the earliest results of its action.

Dr. GRIMSHAW desired to mention a case which he thought was of some interest. It presented a feature which was observed in one of Dr. Hughes' cases—namely, a vesicular eruption over a portion of the body. It had no symptoms whatever of cerebro-spinal arachnitis. The disease only lasted eight days. The patient was a woman of thirty-two years of age, was married, and had had several children. She was admitted into hospital under the care of Dr. Kennedy, was then transferred to him (Dr. Grimshaw), and afterwards to Dr. Moore, who had sent the case back to him. On admission to hospital the patient presented a very remarkable appearance; her face was covered with vesicles somewhat resembling small-pox. These vesicles were surrounded with inflamed areola. In some the appearance was as if a black line had been drawn round the vesicle and "smudged off" over the surrounding skin. The fingers of both hands were quite black and covered with large bullæ, moveable under the cuticle as in cases of commencing gangrene. There were a large number of vesicles on the upper part of the right arm, and on the left arm. All over the lower part of the abdomen, the sacral regions and nates, the vesicles were very numerous and much darker than elsewhere, giving the whole of these parts of the body almost a black appearance. On the lower extremities there were scarcely any vesicles, but the feet were black and swollen, and an old ulcer on the right leg had put on a gangrenous appearance, large sloughs having formed around it for the space of a couple of inches. She presented no symptoms of arachnitis. The temperature at the time of admission was 105; it fell to 99, and on the day of her death rose to 101. The immediate cause of her death seemed to be the extension of her disease to the mucous membrane. She complained of soreness of the mouth and throat, and difficulty of swallowing; and on examination the mucous membranes of the mouth and fauces seemed ulcerated, and detached in many places. The chest became engaged, the whole of the lungs filled with bronchitis, and the immediate cause of death seemed to be the bronchitis. The pulse was at first 140; it fell to 84 on the day before her death, and on that day it was found impossible to count it. The case was considered by all his colleagues to be one of the class which they were now describing. It was stated that she had syphilis ten years ago, for which she received no treatment. The question arose in his mind as to whether this was not purpura, but on looking to the books in which that disease was described he came to the conclusion that it did not bear any resemblance to it.

Dr. GORDON—It seemed quite conceded that the title of black death was not to be used any longer, and also that this disease was not a new one, but in many respects similar to the epidemics which had occurred at various times on the Continent of Europe, and in America. It remained only to settle what the title of this disease was to be. He should think the only true ground to go upon for nomenclature would be to endeavour to find out what the strict nature of the disease was, and not to define it, or call it by any *symptom* which might arise. From the number of cases that had occurred in which two sets of symptoms, one which was (in his opinion erroneously) supposed to be a lesion of the circulation, the other a lesion of the nervous centres, had been developed so largely, they must, *a priori*, expect that they both had their origin in the same affection. Very few, indeed, if any of these cases which are characterized by one predominant set of symptoms, are altogether deficient in the symptoms of the other form. But, in his opinion, these eruptions were all a symptom of nervous lesion (the sympathetic probably) rather than a direct symptom of lesion of circulation, and many of these cases presented also symptoms of actual pathological changes in the nervous centres. They were not to expect in every case decidedly marked symptoms of disease of the nervous centres, but there had not occurred to him any cases in which one or more symptoms, strictly referrible to the nervous centres, were not present, and whether there was a well-marked retraction of the head, or a dark coloured eruption, the case was equally preceded by nervous disease. Dr. M'Swiney was in error in supposing that the cases he referred to was the most rapid on record, or that on account of the shortness of its duration, organic change had not taken place. He had recorded (see *Dublin Quarterly Journal*, May 1) a case which had lasted not quite five hours, and, on parts of the brain, was found a very thin layer of purulent effusion. From an analysis of a great number of cases (there had been more than thirty in the Hardwicke Hospital, dating back to his first case in April, 1866), he would say, that the two sets of symptoms, as they were termed, must be referred to the one cause, and, therefore, he would be disposed to call the disease *Fever with cerebro-spinal meningitis*. The eruption in these cases differed in many respects from purpura, which, at all events, could be looked upon as only a symptom, and therefore he considered the term "purpuric fever" to be erroneous.

Dr. LITTLE said that in the case which occurred in Trinity College, pleurisy as well as bronchitis came on before death. One of the first questions, as it seemed to him, which they had to decide, was whether this new epidemic was due to local causes or to blood-poisoning. He thought when they found that the serous covering of the heart and lungs are likely to be affected, it appeared to him that they were dealing with poisoning of the blood. In the other case in the College, the eruptions

came out symmetrically, and the symptoms of cerebro-spinal arachnitis were well-marked. Death took place in seventy-two hours, and six or eight hours before death the bronchial affection was first discovered.

Dr. HENRY KENNEDY congratulated the Association on the great mass of valuable information brought before it; and this, he said, was the more important as the present disease was so scattered about that five or six cases might be considered a large experience. Three views of this disease had been advanced—one that it was a malignant spotted fever; a second that its essence was a cerebro-spinal arachnitis; and the third that the two diseases co-existed, the one being superadded, as it were, to the other. He then went on to say:—I myself hold the latter view, having a strong conviction that this is the proper way to consider the question. Before speaking of the disease itself, I would call attention to the fact that when any of the acute affections assume a great malignity, they run their course very much more rapidly than is usual; and, what is very important to bear in mind, present then a series of symptoms wonderfully similar to each other. As examples of what I myself have seen I may mention scarlatina, the disease known as acute jaundice, and our common typhus, when it assumes a very bad form. Some years back I saw many cases of scarlatina which terminated within forty-eight hours—the prominent symptoms being vomiting, purging, stupor, coma, convulsions. With the exception of purging, it was just the same with the cases of acute jaundice, of which I have seen five instances; whilst of cases of the worst typhus, and I have seen it run its course in six days, the symptoms were vomiting, stupor, and coma; convulsions very rarely occurring. In this last disease the appearance of the body after death was often very remarkable, the veins having allowed a part of their contents to escape, and there existing, at the same time, general mottling, not distinct petechiæ. But further, when I made an examination of any of these three diseases, I found appearances which were wonderfully similar one to the other; that is, I found violent congestions affecting the brain, extending down the spinal marrow, and attended by more or less serous effusion, which, in the cases of common fever, was often tinged with blood. Now it will be observed that the symptoms during life were in all referrible to the brain and spine, and the appearances after death were, I think I may say identical, and I believe are not to be classed as in any way connected with inflammation. As I go on the meeting will see the bearing of these remarks. It was in 1846 that Dr. Darby, of Bray, first described, in this country, some cases of spinal arachnitis. His remarks were very shortly followed by a paper of the late Dr. Mayne, and neither of these observers say a word about the presence of spots, though they describe the disease with great clearness. Hence I look upon it as certain that, at that period at least, no spots existed; and it may be mentioned in passing, I myself saw, at the South

Workhouse, several of the cases on which Dr. Mayne's paper was founded, and I also saw one case where acute pleuritis was alone found, though the symptoms during life were entirely referrible to the brain and spinal marrow. Since 1846 the disease seems to have disappeared till about two years since, when cases began to appear in the wards of the Cork-street hospital. These at first were all simple cases of the disease; but though very well-marked they did not present the same intensity of symptoms as in the year 1846; neither was the disease confined to boys, as happened in the first instance. Adults were now attacked, and, in my own wards, more females than males. In a very short time, however, the disease became a complication of our ordinary typhus, and then many of the cases presented the ordinary spots and other signs of typhus, together with well-marked symptoms of spinal arachnitis. In other cases again, the patients came in with typhus, being spotted, and then, in the progress of the case, spinal arachnitis set in. Neither was this last observed in one type of fever alone; and the tendency to the affection was very remarkable. Three young females, two of them being between twenty and thirty years of age, were attacked with the disease, and nearly at the same time, one of them very severely. The first had had typhoid, from which she was quite convalescent; the second was passing through gastric fever when attacked, her life was in the balance for many days; the third had had common fever, and was up before the spinal arachnitis showed itself. Now it was whilst this state of things was going on that the new and much more terrible disease, which, for the present, and following the great majority of the American writers, I shall call "spotted fever," appeared amongst us. Is it likely, I would ask here, and keeping in mind the facts just stated, that this new affection is but a modification of spinal arachnitis? I cannot think so. We saw that this latter affection first existed *per se*, then became a complication of typhus and other types of fever. Where is the difficulty in supposing that it may also be a complication of the "spotted fever?" This view, and this only, appears to me capable of explaining all the facts known. For, whilst it must be admitted that the great majority of the cases presented the remarkable spots and spinal arachnitis at the same time, it is not to be forgotten that many of the cases which had the spots did not present any symptoms referrible to the brain or spine. One well-marked instance of this was given to-night by Dr. McSwiney, and of the two cases which came under my own notice, one had no symptoms whatever referrible to either the brain or spine. I know, too, that many similar instances have been met by others; and when such cases have been examined, no trace of inflammatory action has been found in either the brain or spine. For I do not admit that congestion, with some serous effusion—which, it will be recollected, is a state common to any of the acute diseases that run a very rapid course—is due to inflammation. If

it be, then the essence of our typhus fever must be inflammation, which I presume few will maintain. Taking, then, all the facts at present known, and more particularly the one that our typhus fever has, within these two years, been frequently complicated by spinal arachnitis, into consideration, it appears to me that no other conclusion can be arrived at than that the late terrible disease which has visited us is a specific fever, and that the spinal arachnitis is but a complication, which may or may not be present. On the treatment of the spinal arachnitis, when it complicates common typhus, I have got the idea that it is not usually as actively treated as it requires. In my own hands I know that antiphlogistics, including local bleeding and mercury, have been followed by the most satisfactory results; and when the disease was seen very early a fatal result was most unusual.

Dr. HAYDEN said—Mr. President, with your permission I would make a few observations on the important and interesting subject now under discussion. My experience of the disease which has recently appeared in Dublin, and to a limited extent in the provinces, extends only to the two cases which I have laid before the Society, but these cases were of a typical character, and made the subject of careful and anxious study; and to the disease, as observed and reported on in Dublin generally, I have given a good deal of thought. It appears to me that the most important preliminary points to be determined in relation to this novel disease are its general nosological affinities, and its pathology; and in considering it under these two heads we must duly estimate the two prominent groups of symptoms associated with it—namely, the cerebro-spinal and the cutaneous—in relation to the order of their manifestation, their mutual connexion, and their relative significance. Only two views can be held of the pathology of the disease—namely, either that it is essentially a form of cerebro-spinal meningitis, a disease with which this country has been long familiar, but modified by the “epidemic constitution” of the time in which we live, and therefore associated with marked prostration, and a peculiar cutaneous eruption, and ecchymosis; or that it is primarily a disease of blood-deterioration, allied to the essential fevers, and implicating secondarily the cerebro-spinal axis. I confess, sir, that I am in favour of the former of these views, notwithstanding that some difficulties arise in the detailed application of it to the disease under consideration. It is noteworthy that in the great majority of cases recorded, the attack commenced with symptoms of cerebro-spinal irritation—viz., pain in the head and back, sickness of stomach, morbid sensibility, and tingling sensations of the general cutaneous surface, followed in many instances by retraction of the head, recurvation of the spine, dilatation of the pupils, convulsions, and coma. These are undoubtedly the symptoms of cerebro-spinal meningitis, and, in a very large proportion of the cases reported, including both of those

which have come under my own observation, they preceded the cutaneous manifestation by an appreciable interval, varying from a few hours to as many days. Of the two cases which came under my own notice, in one, headache, vomiting, and hyperesthesia of surface preceded by four days, and contraction of the pupils and intolerance of light, by twenty-four hours, the appearance of eruption on the skin, and in the other, bilious vomiting, and other symptoms of cerebral disturbance occurred about nine hours before the petechial eruption appeared. So far, as to the order of manifestation of the two groups of symptoms. The pathogenesis, or pathological connexion between meningeal inflammation and cutaneous eruption and ecchymosis, I will not pretend to explain. I may remark, however, that the recent discoveries of Bernard in regard to the influence of the vaso-motor nervous system upon the capillary circulation, on the one hand, and the intimate connexion of that system with the spinal cord, on the other, would seem to warrant the assumption that central irritation of the cord may so modify the tension of the blood-vessels as to favour, if not to give rise to, extravasation from the cutaneous capillaries; but this, be it remembered, I offer, not as a solution of a great pathological problem, but as suggestive of a line of argument which may be further profitably developed. Observation and analogy are more to the purpose here. The frequent occurrence of herpes, eczema, and psoriasis, in connexion with chorea, is well-known. At the present time I have under my care in hospital a case of right hemiplegia with loss of speech, in which the patient has suffered from two successive crops of an ecthymatous eruption on the face and neck, of a most obstinate character, commencing on the paralysed side, but subsequently extending to the other. In the great majority of cases in which the advantage of a *post mortem* examination has been obtained, evidence of active meningeal inflammation at the base of the brain, and in the spinal canal, has been found; the arachnoid was opaque in many places; serum was effused into the cerebral ventricles, and deposits of lymph and pus were found at the base of the brain, and on the surface of the spinal cord. Now, sir, I would venture to assert, in presence of the many able pathologists assembled here, that such a marked preponderance of active inflammatory lesion of one particular organ, as has been found associated with this disease, is unknown in the pathology of essential fevers. It has been alleged, as favouring the view of the general nature of the disease, that pericarditis and pleuritis have been likewise met with in connexion with it, but the proportion in which these complications have occurred (only three cases out of the whole number reported to the Society) is much too small to confer upon them more than an *accidental* value.

Dr. MOORE, Vice-President College of Physicians, said that he had an opportunity of seeing a series of cases with cerebro-spinal symptoms, in Sir P. Dun's Hospital, about eighteen months ago. He had listened

attentively to the details of all the cases which had been brought before the Society, and in every instance where a *post mortem* examination had been made, evidence of cerebral and cerebro-spinal meningitis had been found, and in two cases which he had the opportunity of seeing, through the kindness of Dr. Gordon, the disorganization might have been termed "excessive," the whole spinal cord being deluged in pus. The symptoms in so many cases could not be expected to be identical. In one there was violent pain along the spine; in another, paralysis; in a third, vomiting and convulsions, all of which symptoms were admittedly nervous, and such cases are valuable, so far as their details go, in pointing to the same exciting cause; but it is upon the cases where the pathology was obtained that we must chiefly rely, more especially on those of Dr. Haverty, in every one of which evidence of severe nervous lesion was shown, and the same was observable in almost every case which has fallen under Dr. Gordon's notice. As regards the herpetic eruption, which prevails in these cases, Dr. Moore went on to say, that recent experiments have shown that nervous irritation is capable of producing herpetic or some such allied eruption over the periphery, and he had seen this proved in two remarkable instances, when large thoracic aneurisms had given rise to persistent nervous pressure, and to equally persistent herpetic eruptions. As regards the purplish spots, call them "*petechiæ*," "*maculæ*," or what you will, they must be regarded as hemorrhagic, and having detailed the close intimacy which is now admitted to exist between the vaso-motor and cerebro-spinal symptoms—so close, that it is difficult to determine where the one stops and the other begins—he concluded that the hemorrhage was most rationally accounted for by the sudden paralysis of the whole nervous system, more especially the vaso-motor, by which means the blood over the body generally may be said to have been "let loose." Everything considered, he thought physiology and pathology must lead us to view this disease as essentially of a cerebro-spinal character. Our knowledge of the nature of diseases in the abstract is as yet limited, but with the information we are possessed of, it is as rational to call this prevailing epidemic a "cerebro-spinal meningitis," as it is to define a disease "*pleurisy*," or "*pneumonia*," where pathology shows us a pleura coated with lymph, or the lower half of a lung in a state of trepatization.

Dr. T. MORE MADDEN said that he had been requested to say a few words in reference to the observations made by Dr. Smith, on the occurrence of the black death of the fourteenth century in Ireland. In the course of his remarks on a case of malignant purpuric fever, which he read before the Society, Dr. Quinlan had mentioned that he had been informed that there was reason to doubt if the black death which prevailed in England in 1347 had then visited in Ireland. Dr. Smith, in reply, quoted an authority, the name of which he (Dr. M. Madden)

did not catch, but which he supposed must have been Father Clynn's Narrative, cited in Harris's *History of Dublin*. Now, as he (Dr. More Madden) had mentioned to Dr. Quinlan that no allusion to black death in Ireland in the year 1347-'48 was to be found in the *Annals of Ireland*, by the Four Masters, he thought it right to say that last year, when engaged on an essay which he then published on the connexion existing between epidemic and epizootic diseases in Ireland in the middle ages—which connexion, he might observe, was recently well illustrated by the rinderpest, which preceded and accompanied the epidemic cholera in England last year, he had frequent occasion to consult the *Annals* of the Four Masters, and was particularly struck by finding that these *Annals*, which contain special notices of the plagues which visited Ireland, make no reference whatever to the "black death" at the time when it prevailed elsewhere. And, therefore, without having the least doubt of the accuracy of Father Clynn's Narrative, he thought it might be of interest, when the history of the disease came under discussion, to mention this omission, as it was certainly curious that a pestilence, so remarkable in its character and so fatal in its results, should have occurred in Ireland in the year 1347 without being observed and chronicled in the contemporary *Annals* of the Four Masters.

Dr. BANKS said that having seen some cases of the disease under consideration, he should like to state his experience of it shortly. He had seen some cases in which cerebro-spinal symptoms were very well marked, and in others those symptoms were absent. The disease appeared to him to be altogether a blood disease, and in the observations made by Dr. Gordon on the evening before last he entirely agreed. He had himself reported in the journal some cases of the disease, and there was just one point to which he wished especially to revert, namely, that from the period that this new disease first appeared, he had seen a considerable number of other diseases in which black spots appeared on the surface of the body. He saw lately, in consultation with a physician on the other side of town, a case of acute rheumatic fever, in which large purpuric spots appeared, in no respect differing from some of the cases of this terrible disease; so much so, that at the moment he first saw them his impression was that the disease was about to assume the character of this most fatal malady. He saw at least six cases within a short period in which these purple spots appeared. It seemed to show, as Dr. Hughes had suggested, that there was some peculiar state of the atmosphere owing to which this asthenic condition of disease was present. He believed the disease they were now considering was in almost all cases cerebro-spinal arachnitis, but there were some cases in which the altered condition of the blood, manifested by the appearance of the spots over the surface, occurred without any sign of cerebro-spinal meningitis being discernible after death. With reference to the name of this disease, he

would venture almost to give it a name, but he hesitated because there were so many objections to all the names which had been suggested. He strongly protested against some of them, and more especially against the name "Black Death." It would be a waste of time to go further into that subject. They all knew the terror it had struck into the public mind when the name first appeared in the newspapers. They all knew that pestilential diseases were frequently fatal to the first persons attacked, but the effect of calling the disease "Death" impressed people with the notion that all attacked must die. In almost all such diseases experience showed that the disease decreased in virulence as it wore out, and that the latter cases in every epidemic were not so bad as the earlier ones. He believed this disease was a blood disease, that the greater number of cases were cerebro-spinal arachnitis. He would venture to call it pestilential purpura. It had all the attributes of a pestilential disease, and he thought this name less objectionable than some of the names that had been given to it.

Mr. FLEMING bore testimony to the great interest and importance of the remarks which had been made by the gentlemen who had taken part in the discussion. His observations would be limited to what fell within his special department in the surgical wards of an hospital. He thought, as regarded the nomenclature of the disease, they were all agreed that the fearful appellation "Black Death" should be given up; and he would suggest that the name which the President had given it would be suitable, as expressing all its essential features, viz.—malignant purpuric fever. The word fever, perhaps, was questionable, for they had heard that the disease had manifested itself without fever. As to its surgical aspect, he would ask those who had witnessed surgical operations and injuries, to recall the supervention of symptoms like these as regards their extreme intensity, and their fatal termination. They were all familiar with them, and especially as regards diseases affecting the periosteum, with eruptions on the skin, and complicated with pericardial effusion.

The PRESIDENT said he would now offer a few remarks on the debate of that night, and on the subject in general. He might observe, in the first place, that his friend Dr. Gordon, in his paper in the *Dublin Quarterly Journal*, had, to a great degree, exhausted the subject, so far as the epidemic of cerebro-spinal arachnitis is concerned. He did not say that he entirely agreed with Dr. Gordon in the general conclusion at which he had arrived as to the pathology of the disease, but, so far as the observation of the local disease went, he thought his paper was an exhaustive one. Now, it appeared that, during the past year at all events, Dublin had been visited by two forms of *essential disease*. The first of them was the affection which they had been discussing that night, and the second was the cholera; and, looking at the invasion of these diseases in the one year, it was very hard to avoid the conclusion that

some relation existed between them. The disease which he proposed to call malignant purpuric fever (he was not, however, wedded to that name) seemed to precede the cholera. In some cases it was in its very highest form of development before the cholera broke out. That extraordinary case of Dr. Croly's apprentice, which, as far as he knew, was the first case of the disease, occurred in March, 1866. That young man went to bed feeling a little ill, after sitting in his room during Sunday. His master visited him in the evening, and observed a few petechial spots on the neck. This alarmed him, because so early an appearance of petechia in fever is unusual. He saw him in the morning and the spots were black; they appeared to grow under his very eye. At eleven o'clock the spots were numerous and extremely large, and between eleven and one o'clock the entire right arm and half of the right chest were as black as the coat of any gentleman in the room; large patches of ecchymosis appeared all over the rest of the body, and the patient was dead at two o'clock. During the pressure of the cholera the disease seemed to be very much less frequent. It seemed to be to a great extent suspended. There were but two cases in the Meath Hospital in the months of October, November, and December, and they were not cases of the very rapid form of the disease. Then when cholera died away this extraordinary disease reappeared, and so far from being confined to Dublin, it appeared in several country districts, and they did not yet know in how many country districts the disease may have appeared. It struck him that this disease had all the characteristics of a most malignant blood-poisoning, and that, though it was in character an essential or so-called zymotic affection, it differed from every form of fever with which they were familiar. Every case had been contributed by independent observers, and the details of the cases presented complications singularly varied, yet there was an amount of generic coincidence among them to justify their classification under one head. How did the disease differ from ordinary maculated fever? It differed from fever in the rapidity with which it ran its course—a course from a few hours to a few days. The first was a thing unknown in cases of ordinary typhus. It differed also in the eruption—in the character of the eruption, the mode of its appearance, and the duration of the eruption. This disease began in ordinary cases with the eruption, which typhus fever did not; and it differed again in the frequency of one special local symptom—namely, the cerebro-spinal irritation. It might be a question whether these symptoms were the result of reflex action or the result of general inflammation of the structures themselves. The fact was certain that in many cases the membranes of the brain, and at least those of the upper part of the spinal cord had been found inflamed. This was one of the rarest circumstances in typhus fever. Let them consider these points. First, the duration of the disease—the disease had been fatal in less than

eight hours—as few as eighteen or twenty hours was not at all unfrequent. From five to six days appeared by different cases which had been reported to have been an ordinary proportion, and there were three cases where the disease ran on for several weeks before the patient was convalescent. The eruptions had been very various. In some the spots were elevated. In rapidly fatal cases it had appeared in the form of petechiæ, running rapidly into ecchymosis, the original ailment not being preceded by fever at all. A few hours were sufficient to render a large portion of the body black. Another point of difference between this disease and typhus fever was an important one—the variation in the range of temperature. In one case in the Meath Hospital the temperature on the third day was below the natural standard—96 7-10ths, and in this case the highest temperature reached was 98 8-10ths. The pulse was only 80. In the second fatal case on the second day, the temperature was 99 6-10ths, and on the third day it rose three degrees. The pulse, on the day preceding death, was 84. The occurrence of cerebro-spinal arachnitis in many of these cases was remarkable. In two cases which he saw, the patients could only lie on the abdomen, and when the trunk of the body was lifted up by main strength, the patient immediately slipped down to the bottom of the bed. There was great variety in these cases of cerebro-spinal arachnitis. One of the first cases of this disease which he saw was marked by some curious symptoms. A boy was taken ill with symptoms like those of cholera; symptoms of collapse set in in four hours; large spots came out on the arms; the head became retracted, so that he could only lie on his belly. He had a low form of fever which left him on the third day, when the spots began to disappear, and the boy had a quiet pulse, but the retraction of the head continued to the most extreme degree, and in this state he remained for seven weeks lying on his belly, eating, drinking, sleeping, and getting fat. At the end of seven weeks the retraction got less and less, and he completely recovered. This was a remarkable fact, showing that they were not to infer from the existence of this special symptom that there was necessarily cerebro-spinal arachnitis. Another boy had typhus fever, and in recovering from it the retraction of the head took place. He could only convey to them an idea of its extent by saying that if the boy was raised up in bed the face was almost horizontal. At this period of extreme retraction a liniment of iodine was applied to the neck, and the next day the retraction was almost altogether gone. They must not forget that in some cases, neither the local symptoms of cerebro-spinal arachnitis were present, nor were any indications of them found after death. He saw one case where there were no symptoms of cerebro-spinal arachnitis. The patient preserved his senses up to the last. This would tend to show that this lesion was not primary but secondary, and all observation went to establish that it was a secondary and not an

essential condition. Let it not be forgotten that in some of the worst cases the symptoms of spinal arachnitis were absent; and if, as some supposed, the ecchymosis and eruptions were due to disturbance of the nervous centres they should have found in the worst cases of the disease the greatest amount of lesion, but the fact was not so. It might be that there was an epidemic tendency to local disease. Some years since they had seen a great many cases of abscess of the liver, which was a rare disease. They knew from Dr. Darby, Dr. Law, and Dr. Gordon, that there had been cases of cerebro-spinal disease very frequent for some years past. But although this disease of cerebro-spinal arachnitis had been naturalized amongst us for years, it was only during the last year that the disease marked by this singular eruption had occurred. Now, there had been an idea abroad of this disease being measles, from the similarity of the eruption in many cases, and it was worthy of remark that during the time that these cases were most prevalent, measles had been unusually frequent, and unusually fatal. A case had occurred under his observation which showed the difference between this disease and measles. In a family in this town, one of the children, a little boy, had well formed and natural measles. A little girl, his sister, sickened, and the parents thought she was getting measles. This was followed by the black eruption which was characteristic of the disease which they were now discussing. After a few days well-marked measles made their appearance, causing a peculiar change in the girl's aspect. All these facts would strongly bear out the view that this disease was a blood-poisoning, and that the cerebro-spinal affection was a secondary disease in this form of fever. Now, as to the question of contagion they had had few facts before them until the last day of meeting to lead to the conclusion that this was a contagious disease. Dr. Haverty in his paper mentioned some facts tending to that conclusion, and they had at present in the Meath Hospital a mother and child labouring under this disease, and who had apparently caught it by contagion. Another child died of this black disease some time ago. Some days afterwards the second child sickened with the same symptoms. The mother slept in the same bed with the child. She sickened the next day, and both mother and child were at present in hospital. These facts were very important with reference to the question of contagion. Although the disease had up to the present proceeded sporadically, there was no reason to say that it might not be of a contagious character. He thought this was a disease of the blood, of an essential nature, and that the secondary and incompetent cerebro-spinal arachnitis was to explain it. The number of cases contributed by members and visitors showed the great value of the Society. It showed that the Society was becoming a great medical observatory, affording men an opportunity of placing upon record cases of a remarkable character, while the facts were fresh in their memory (applause).

The meeting then separated.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY
OF DUBLIN.^a

DR. R. W. SMITH, President.

Ulceration of the Intestines.—Dr. HENRY KENNEDY exhibited a portion of the lower part of the ileum, taken from the body of a patient who had died of enteric fever. A young man of seventeen was admitted into Dun's Hospital in August of the present year. For a week it was doubtful what type of fever he had. It then seemed more of the gastric than any other type. At the end of the week diarrhea came on, but no spots. Still it was thought prudent to treat the case as if it were enteric; and after a few days the patient got better, and progressed so far as to be able to be up. At this period an error in diet was made—at least the patient himself thought so—and he at once relapsed; the symptoms becoming much more intense than at first; the fever now ran very high; the diarrhea became severe; and spots appeared in due course, few and well-defined. It is enough to add that treatment now failed; matters became worse and worse; and the patient died on the thirty-seventh day of the illness, reckoning from the first onset of fever.

On examination, ulcers were found in the ileum and colon; though quite distinct, they were very superficial; in fact, not typical of the disease. Those in the colon were the more distinct, but isolated, as if a little bit had been punched out. The glands of the mesentery were enlarged, and one had formed into a little bag of pus. This case Dr. K. thought worthy of noting, as, at the previous meeting, Dr. Leet exhibited a specimen of ulceration of the ileum, taken also from a fever patient, but under different circumstances, and so affording a marked contrast. In Dr. Leet's case the patient had typhus fever, as shown by a copious rash. In the course of the attack diarrhea appeared twice, but so slight as scarcely to attract notice. The patient ultimately died of abscess of the lung. On examining the ileum distinct but superficial ulceration was found. Here there were two cases of ulceration of the ileum occurring in the progress of fever; and yet, in one of them, the symptoms during life were those of well-marked typhus. The only other point Dr. K. would notice was the presence of ulcers in the colon. These were met in many of Louis' cases; and Dr. K. thought it more common in these cases than was generally supposed.—*December 8, 1866.*

Vitiligo.—Dr. BELCHER exhibited a drawing of a case of vitiligo, on which he made the following remarks:—The case illustrated in the accompanying sketch occurred in a young lady, aged six, who was sent

^a These reports are furnished by the Secretary to the Society.

to me by a physician in large practice in this city. On the 2nd February, 1866, at the time of her first visit, it was stated that both parents were healthy; her own general health was good; no one in her family had ever been affected with vitiligo, or anything approaching to it; and, in fact, nothing could be found to account for the appearance here indicated, which very naturally caused her parents no small anxiety. About the beginning of the year 1865, some grey or white hairs first appeared; they increased in quantity until a large portion of the hair at the right side of the head became white, resembling, in fact, the wax figures of heads of hair, partly dyed and partly white, to be seen in most hair-dressers' shop windows. The appearance of the skin corresponded pretty closely to the plate of vitiligo in Dr. Neligan's *Atlas*, the unaffected patches being more prominent in this case than in Dr. Neligan's plate.

The extent of the disease of the skin at this time was mostly limited to the front of the right side of the trunk; and, in a lesser degree, to the back. On the right arm, near the elbow, was a patch of what, at a cursory glance, seemed to be incipient psoriasis.

About three weeks afterwards the disease had extended completely round the body like a broad belt. It also appeared on the forehead, on the hips, and down the outside of the thighs, as well as on both feet. There was no appearance of tubercles or elevation of any part of the surface. I considered the disease in this case to have arisen from a deficiency in the colouring matter of the skin; and I am unable to say anything further as to its subsequent history.—*December 15, 1866.*

Aneurism of one of the Sinuses of Valsalva.—Dr. JENNINGS exhibited a specimen of Valsalvian aneurism complicated with almost complete occlusion of the aortic orifice, obtained from the body of a man, aged thirty-six, who had been discharged from the army in consequence of ill health. He was first admitted into hospital about two years since, labouring under disease of the heart, the precise nature of which was easily recognized from the presence of a prolonged harsh "bruit," audible over the aortic orifice and upper portion of the sternum, synchronous with the ventricular systole, and evidently produced by aortic obstruction. The total absence of the second sound showed that the obstruction resulted from a morbid deposit, which had rendered the semilunar valves rigid, if not altogether immovable.

Although the heart's action was laboured and violent, and its impulse visible at the distance of several feet, and at a point considerably lower than normal, yet the pulse at the wrist was exceedingly small and irregular. Having remained under treatment for some time, during which he experienced great relief from repeated leeching, and slight mercurialization, he voluntarily left the hospital.

On his next admission, after the lapse of nearly twelve months, on the

28th April, 1866, the progress of the aortic occlusion, as also the engagement of the mitral aperture, was painfully evident. Pulsation was now imperceptible at the wrists, and could scarcely be distinguished even in the larger superficial arteries. The head and face were swollen and livid, and the respiration hurried and greatly distressed. Both sides of the chest were extremely dull; the extremities anasarctous; and great difficulty was experienced in maintaining the necessary temperature of the body.

A second systolic "bruit" strongly contrasted with the original one—being much softer in character—was now heard below, and to the left of, the left nipple, establishing the fact of mitral regurgitation.

Although the fatal termination of the case at no distant date was painfully manifest, yet the instantaneousness of his death, which took place on the evening of the 2nd of May, after he had passed an unusually tranquil day, occasioned no slight surprise, and caused the autopsy to be made with unusual care.

P.M.—The vessels of the scalp and brain were engorged with dark-coloured blood. The lungs, also, were entirely congested, and the chambers of the heart were all filled with coagula. Both ventricles were hypertrophied and dilated, especially the left. The auricles also were more capacious than normal, and the parietes of the right unusually thin. Both auriculo-ventricular orifices were correspondingly enlarged, their valves, however, being perfectly healthy in structure. The right and left divisions of the aortic semilunar valves were found converted into large irregular osseous masses; the edge of one projecting over that of the opposite, thus forming a very irregular and sinuous passage; so that in consequence of this derangement, the passage of the blood must have been rendered still more tedious and difficult. The anterior flap, though very diseased and thickened, was not occupied by any morbid deposit, and when viewed from the aorta was almost completely concealed by the nodulated bony masses of the other curtains. When viewed from the ventricle, it was seen to bulge into this cavity, under the pressure of the osseous deposit above. It also presented from this aspect two ragged perforations, which would permit the passage of a very small pea. Springing from the base of the anterior curtain, near its union with the right, was seen an aneurismal enlargement, about the size of a grape. This communicated with the Valsalvian sinus by a large orifice, of irregular and ragged outline, and projected, in a somewhat upward direction, into the right auricle, just above the "zona tendinosa," its cavity being distinctly invested by the lining membrane of the aorta.

Death had resulted from a somewhat circular perforation of the sac in its superior aspect.

Dr. Jennings remarked that the extreme rarity, under any circumstances—even of other co-existing lesions—of aneurismal expansions in

this situation, however probable such might seem from anatomical reasons, was well evidenced by the fact that the records of the transactions of the society, since its foundation, afforded the histories of but four similar cases. One produced by the late Professor Harrison, on 23rd February, 1839, in which the pouch extended downwards, along the "septum cordis," towards the right ventricle. A second, shown by Dr. Hanna, at the meeting held on the 9th March following, in which the sac pressed downwards into the external wall of the left ventricle. A third, exhibited by the late Mr. Carmichael, on 12th December, 1840, and in which the tumour compressed the pulmonary artery at its origin; and a fourth, the particulars of which were given by Dr. Gordon, during the session 1862-3.

In every one of these instances, as also in the present, other and most serious cardiac or arterial diseases had coexisted; the most prominent symptoms of which seem, in the first three, to have prevented any special and positive recognition of the aneurismal lesions. In Dr. Gordon's case the complication was "permanent patency" of the valves. But still more unusual must this form of aneurism be in cases of almost complete occlusion of this orifice, the quantity of blood transmitted through which must have been reduced to a minimum, and the reflux, of course, correspondingly weak. In his opinion, the yielding of the arterial coats must have commenced in the very earliest stage of morbid action, when all the valvular curtains were alike inelastic, and probably patent; its subsequent progress having been arrested by rapid osseous deposition in the right and left divisions. Thus the small size attained by the sac might be explained, not merely by weakness of the descending column of blood, but further by the fact that it was to a great extent protected even from this trivial pressure by the support afforded by the interposed mass of bone.

In the present instance, though the actual nature and rapid development of the aortic obstruction, as also the subsequent inadequacy of the mitral valves, had been positively determined during life; yet it was but right to state that no suspicion was entertained of the aneurismal complication, nor did there exist any of those characteristic symptoms which enabled Dr. Gordon to recognize the presence of mischief in addition to the patent condition of the valves.—*December 15, 1867.*

Cirrhosis of the Liver.—Dr. BANKS said that, on the 6th of July last, a woman, aged forty, was admitted into the Whitworth Hospital. She presented the usual symptoms and signs of cirrhosis of the liver. The ascites, which had not attained to any great extent at the time of her admission, greatly increased; and after she had been a few weeks in the hospital she was tapped. She vomited occasionally; and once she discharged a considerable quantity of dark fluid which, on microscopical

examination, was found to contain blood. She suffered frequently from attacks of diarrhea, and sometimes this diarrhea was uncontrollable, and brought her to a very low ebb in point of strength. She was very slightly jaundiced; the jaundice being not by any means so marked as is usual in similar cases. On the occasion of the fourth tapping, a few hours after the operation, she manifested symptoms of intense peritonitis, and for some time, at least for a day and a half, it appeared as if the disease must prove fatal: but she recovered from the peritonitis, and was tapped four times subsequently. On these occasions 28, 32, 26, and 38 pints of fluid, of the usual character, were drawn off. After the eighth tapping she gradually sank; protracted diarrhea, and consequent debility, being the immediate cause of her death. On examination of the body, the capsule of the liver was found to be very much thickened; but the liver was not found in the advanced stage of cirrhosis which might have been expected from the duration of the disease, and its fatal termination. It was rough, and presented a nutmeg appearance. It was also diminished in size, and presented evidence of perihepatic inflammation, false membranes, like ligaments, extending from the diaphragm to the surface of the liver. The case was interesting in one respect—the fact of the woman, in her broken down condition, having recovered from peritonitis. All who had seen much of this disease were aware that peritonitis, occurring after paracentesis, was almost always fatal, being generally of a low asthenic character; but this woman recovered from the peritonitis and lived for two months afterwards, and was four times subsequently the subject of operation without any peritoneal inflammation following.—*December 15, 1866.*

Pemphigus.—Mr. WILLIAM STOKES said he wished to bring under the notice of the society the particulars of a case which was under his care in the Meath Hospital, in September, last year. It was one of interest from a two-fold point of view. In the first place, from the rarity of the disease, viz., chronic idiopathic pemphigus; and, in the second place, because it exhibited a sequela of that affection which, as far as he could ascertain, had not been noticed by any writer on dermatology.

The disease was a rare one, and he might mention that in the proceedings of that society there had been only one example recorded of it, and that was shown by Sir D. Corrigan, so long ago as the year 1842. Since that time there had been no record in the proceedings of the society of any case of the kind.

The patient, a young woman, aged twenty-two, was admitted to the Meath Hospital on last September twelve months. She stated that about twelve months previous to her admission these bullæ, or vesicles, began to appear on her shoulders and axillæ. The vesicles varied both in size and form, some of them being the size of millet seeds, others as large as a shilling or a florin piece. They ran the usual course—the clear, straw-

coloured fluid, which was at first contained in them, becoming, in a few days, opaque; and the epidermis covering them bursting, left behind a light excoriation of a brilliant red colour, and without any hardened base. The appearance of these vesicles was not complicated with any febrile symptoms, but with a remarkable increase in the depression under which the patient habitually laboured. This increase in the depression was also a feature noticed by Sir D. Corrigan in the record of his case. Another peculiarity in this case was the appearance of the vesicles on the scalp, a situation which, according to dermatologists, is generally free from the invasion of this disease. The patient stated that about five months after the first appearance of the vesicles on her head and chest her fingers became affected, and shortly afterwards there was a shedding of the nails on both hands; subsequently the toes became affected, and with a like result. This alopecia unguialis had been observed to occur in other cutaneous affections. Dr. Fleming had mentioned the particulars of a case of eczema, under his care last year, in which this had been observed. It had been observed to occur as a congenital malformation, some remarkable cases of which were given by Lebert, in his *Pathological Anatomy*. It is also noticed by Delpach in connexion with syphilitic onyxia.

In the case, however, under consideration, the alopecia unguialis occurred without any previous inflammation of the skin in the immediate neighbourhood of the nails, or any appearance of an abnormal character in the nails themselves. This affection has also been noticed by Hunter, Cullierier, and other authors; but he was not aware that it had been noticed by any writer in connexion with this disease. It was not mentioned in any of the foreign works on dermatology, or in the work by Dr. Neligan, which has been recently edited by Dr. Belcher.—*December 15, 1866.*

Malformation and Disease of the Liver.—Dr. HENRY KENNEDY exhibited a specimen of diseased liver taken from the body of a young man of twenty-two years of age, who was admitted into Sir P. Dun's Hospital in August last. The patient had lived a very hard life up to the very moment of his being seized with his last illness, which assumed the character of what is known as acute jaundice. On admission, he was insensible, his pupils rather dilated, and his pulse about 66 in the minute. He could not be roused; but he swallowed slowly. His body presented a marked, though not a deep shade of jaundice; it was more of a lemon hue. His right arm and leg were jerked at certain intervals, as if by spasm; and this continued to the last. There was no further approach to convulsions, such as Dr. K. had seen in similar cases before. No treatment seemed of any avail, and the patient died the fourth day from admission. The entire illness had not lasted a week. The pulse got rapid the last day of life, and profuse perspiration occurred.

On making an examination, the stomach and duodenum were found quite healthy, and all the ducts pervious. The gall-bladder was half full of dark-coloured bile. The liver was much reduced in size, and weighed two pounds all but two ounces. The upper surface, and only this portion, was stained of a very dark hue, as if from the exudation of black bile; and the serous covering was somewhat opaque and milky. The left lobe could scarcely be said to exist; it was the merest trace of it which remained, probably not more than one ounce in weight. The under surface of the organ presented a very peculiar appearance. It was very irregular; being made up of a number of prominences, each about the size of a walnut, and projecting more than half an inch from the surface. Whether these were congenital, or the result of disease, it would be hard to determine. The human liver often exhibits forms analogous to what exists naturally in the lower animals; and so it may have been in this instance. Be that as it may, these lobes were all diseased, and when cut into presented a very marked specimen of "acute yellow softening" of the liver, described by modern writers. All had given cases where the disease, known as acute jaundice, had occurred in persons whose livers were found in a state of yellow softening. In fact, all writers had connected them as cause and effect. Dr. K. did not believe this view to be quite correct; for he had seen cases of acute jaundice where the liver did not, on examination, exhibit the yellow softening; so that the latter could only be considered as one of the states which may give rise to acute jaundice. In looking through the several recent works on the liver, Dr. K. was struck with the fact, that the very able paper of the late Sir Henry Marsh, on this specific subject had been entirely overlooked.—*December 15, 1866.*

Fracture of the Anatomical Neck of the Humerus.—Dr. FLEMING said that in the excellent work of the President on *Fractures in the Vicinity of Joints*, he made a remark which must be admitted to be practically correct, that in no joint was it more necessary for the surgeon to be circumspect in his diagnosis than in injuries in the immediate neighbourhood of the scapulo-humeral articulation. A case of this class of injury recently occurred to Dr. Fleming, which was specially interesting, namely, a fracture of the anatomical neck of the humerus, one of the rarest of those occurring in this locality. In the treatise to which he alluded numerous examples were given of the effects of this accident at distant dates from its occurrence; but Dr. Fleming knew of no instance in which there was an opportunity of examining its anatomical characters at so early a period as in the case which he now presented to the Society. The subject of the injury was a man of middle age, of extremely intemperate habits, and, on a late occasion, whilst intoxicated, was crossing a street, when he was thrown down by a cab. Two days after

the accident he applied at the Richmond hospital, when Dr. Fleming saw him, and his attention was particularly attracted by the extreme amount of pain and suffering the man appeared to experience in the left shoulder joint, although, on examination, not the slightest external mark of injury could be detected about it—not an abrasion—not a trace of contusion could be observed—and there was not the slightest deviation in the outline of the joint from that of the opposite side. The limb was powerless; there was agonizing pain on the least movement of it; and the lightest touch in the situation of the greater tuberosity of the humerus was intolerable. In endeavouring, by the ordinary methods, to ascertain whether any crepitus was discernible, this was the only spot where such could be detected; and the sensation was really more that of the crackling of parchment than the peculiar crepitus of fracture. Satisfied as to the probable nature of the injury, the man was admitted into hospital; where, on the night of his admission, he was attacked with cholera, and died on the following day, and Dr. Fleming succeeded in obtaining the shoulder joint.

A fracture of the anatomical neck of the humerus, almost completely intra-capsular, was found encircling the head of the bone, at one portion of the circumference of which there was a chipping off of the margin of the articular cartilage, and the greater tubercle was found to be the seat of a comminuted fracture. The under surface of the superior fragment or head of the bone was excavated. There was a similar appearance in the inferior fractured portion, leading to the impression that a certain amount of impaction of the fractured portions of bone had taken place at the time of the inquiry.

Dr. Fleming observed that the specimen was strongly confirmatory of one of the conclusions arrived at by Professor Smith, in the elaborate work already alluded to. When speaking of the injury in question, he says:—"The intra-capsular impacted fracture is generally accompanied by fracture of one or other, or of both tubercles, and is, so far, analogous to the extra-capsular impacted fracture of the neck of the femur, with fracture of one or other, or of both trochanters."—*December 15, 1866.*

Primary Cancer of the Kidneys; Cancerous Tumour in the Prostate Gland.—Dr. FLEMING presented specimens illustrative of the above-mentioned lesions, and gave the following history of the case.

The patient was a countryman, beyond sixty years of age, who had been sent to the Richmond Hospital from the north of Ireland. labouring under urinary disease, which had been persistent for a lengthened period. The history of the previous and existing symptoms of his complaint was by no means satisfactory, as he laboured under much fever, accompanied with head symptoms, which rendered him as indisposed as unequal to answer questions; but the more prominent symptoms

were and had always been, referred to the urinary organs. Originally, they were urgency, frequency, and pain in micturition; and these now had terminated in incontinence of urine, which was occasionally attended with paroxysmal pains. The incontinence was persistent both during the day and night. There was a larger amount of continued fever than is usually present in such cases. His thirst was great; his pulse unsteady and quick, and his bowels irregular. He did not complain of tenesmus. It was difficult to examine the character of the urine, but from the small amount collected it was satisfactorily ascertained that its reaction was acid, its colour clear, and there was no blood in it. Indeed, he distinctly stated that he never had had hematuria. There was no tumour traceable in the abdomen. The impression respecting the presence of stone in the bladder was removed by the introduction of a sound; it entered the bladder with some slight interruption in the prostatic portion of the urethra, but there was no stone to be detected, neither was there any urine in the bladder. The prostate gland was found to be much enlarged, and the sensation of a nodulated hardness was distinctly communicated to the sound when moved in the bladder. The fever quickly assumed the character of the epidemic, and rendered his removal to the Hardwicke Hospital necessary, where he died, having survived his arrival from the country only a fortnight.

For some days previous to his death his cerebral symptoms occasionally were marked by some epileptiform attacks, but in the intervals he was at times quite conscious. About thirty-six hours previous to his death Dr. Fleming had a conversation with him, and found him perfectly intelligent. After a short time, however, he lapsed into a muttering delirium; and it may be remarked that the incontinence of urine passed into retention during the last few days of his life, and that after death the bladder was found distended with urine.

At the *post-mortem* examination particular attention was directed to the kidneys, the bladder, and the prostate gland. The kidneys were removed with difficulty in consequence of surrounding abnormal adhesions so intimate that the capsules were detached, being intimately adherent to the surrounding peritoneum and adipose tissue. Both kidneys were greatly enlarged, and numerous morbid deposits, of a whitish-yellow colour, some distinct and almost miliary, and others interstitial and diffused, were visible on the surface of each; and a vertical section exposed the same condition pervading the cortical and tubular portions most extensively. The malignant character of these deposits appeared to Dr. Fleming to be unmistakable, although some doubts were entertained respecting the results of the microscopical examination.

The state of the kidneys in this instance most closely resembled what was noticed in another case, which Dr. Fleming had exhibited before the society, where encephaloid tubercles were found in these organs, in the bladder, one of the ribs, &c.

The condition of the bladder presented nothing deserving of notice beyond the columnar arrangement of its muscular fibres, so constant in cases of prostatic enlargement. The prostate gland was large, very hard, and nodulated; and a section of it showed an isolated tumour, apparently cystic in its nature, and confirmatory of Mr. Paget's remarks on the subject.

Altogether the specimen was very instructive to the surgeon, and confirms the opinions that the commencement, as well as the existing symptoms, in many of the diseases of the urinary organs is most treacherous; that all suffering will be referred to the region of the bladder, as being the sole organ affected in one class of cases; while in another all the distinctive symptoms will be referred to the region of the kidneys, and yet the bladder alone will be found to present local lesions.—*January 2, 1867.*

Tumour of the Breast.—Dr. SMYLY exhibited a tumour removed from the breast of a woman, aged about thirty years, in the Meath Hospital. It appeared that about seven years ago she accidentally felt a small tumour just under the nipple, but she never suffered any pain or inconvenience from it. About two years afterwards a clear fluid began to flow from the nipple. This went on without any change for three or four years. About three years ago the tumour commenced growing rapidly. When first seen by Dr. Smyly it was about the size of an orange. It gave her considerable pain at the menstrual period, when it assumed a red colour, but caused no uneasiness during the intervals. An accurate examination having shown it to be of a cystic nature, it was tapped, and a large quantity of fluid was drawn. A drainage tube was introduced, and kept for a long time, till the tumour, in fact, had nearly disappeared; but in a few months after its removal the sac filled again, and the woman sought medical aid. I then tapped it a second time, and the fluid drawn off was of a dark colour.

The tumour then inflamed slightly, and when empty this time there was some solid matter felt in the walls of it. It again returned, and was tapped a third time about a year ago. The wound never quite healed after the third tapping; there was a continual oozing of a clear limpid fluid.

A few days ago the breast was removed. It is an interesting specimen, as showing how, in the course of events, a simple cyst may become proliferous, and ultimately end in the true adenoid tumour. It consists of a firm cyst, one half of it being filled by small pedunculated growths. There was, in addition to the large cyst, numerous small ones in the surrounding fat. These were subsequently removed with the scissors.—*January 12, 1867.*

Cancer of the Breast.—Mr. COLLIS presented a tumour, removed from the mammary region of a female aged about forty, unmarried, and in good general health. The points of interest which it presented were that it originated at the most internal part of the gland, and that it presented well-marked characteristics both of scirrhus and of encephaloid side by side. The tumour had been first observed three months ago, although its origin probably dated further back. The point of the breast first attacked lay as far as possible from the axilla, at the innermost point of the gland. At this spot some hardness and swelling were noticed accidentally three months ago, the swelling being flattened somewhat, and in size about that of a bean. The skin over this spot was not exactly adherent, yet somewhat tied down; and the section of this part of the tumour shows the destructive characters of scirrhus. In a short time (three or four weeks) it was noticed that the swelling had extended outwards so as to implicate one-third of the gland, but still not reaching as far as the portion underneath the nipple. This part of the tumour was softer, more elastic, and more raised. Its outline, also, was more spherical. The nipple was small naturally, but not retracted. Section of this more recent part of the growth showed the pink hue, soft texture, and curvilinear outlines peculiar to the encephaloid form of cancer. This tumour was therefore interesting, as showing that there was no specific difference between these two forms of cancer beyond the slow growth of scirrhus and the rapid growth of encephaloid. Mr. Collis conceived that this was a favourable form of the disease, and one justifying the removal of the tumour, inasmuch as the part first affected was so distant from the axillary lymphatics as to leave more than half of the gland tissue of the breast sound. The age of the lady was a further reason for giving her a chance of prolonged life by removing a disease which appeared as yet limited to one spot. The axillary glands were lightly irritated, but not infiltrated.—*January 12, 1867.*

Glandular Tumour.—Mr. COLLIS exhibited an adenoid tumour, removed from the submaxillary region of a man aged forty-two, a patient in the Meath Hospital. It took three years to grow to its present size, and extended deeply under the jaw. The skin was stretched over it, but not adherent. It was removed by a single incision, and afterwards by the finger; its deep adhesions were considerable, both in number and strength. In removing it the principal nutrient vessel was torn, and Mr. Collis was surprised to find that the ligatures would not hold. The arterial hemorrhage was considerable, and rendered it hard to find the bleeding point; but this was seized again and again and tied, ineffectually, the ligature immediately slipping off. At length Mr. Collis got a momentary view of the bleeding point, and saw that the artery had been torn clean out of the side of a large vessel, which was manifestly the

external carotid. He passed an aneurism needle round it, and tied it and on doing so the hemorrhage ceased.

The ligatures came away in four days.

A section of this tumour, which was larger than an orange, showed a number of loculi of a rounded outline, filled with a gelatinous transparent material, which was simply an accumulation of the ordinary gland cells. There was nothing malignant about the tumour, which was quite isolated from the surrounding tissue, although ramifying deeply among them and mechanically adherent to them. This adhesion was the result of ordinary inflammatory processes, and was quite different from the poisonous infiltration which characterizes cancer. At the same time it was right to remove the tumour, as, sooner or later, by its pressure it would have interfered with the functions of important or even vital parts.—*January 12, 1867.*

Abscess of the Liver.—Dr. WHARTON brought under the consideration of the Society the following notice of a case which was lately admitted to the Meath Hospital under his care. The patient was a lad, aged eighteen, of a well-marked strumous diathesis, and in whom the condition known by the term *leukdenic* was strongly observable. The cervical lymphatic glands were considerably enlarged, the complexion pallid, and the entire system much emaciated. There was neither cough nor diarrhea. Treatment was chiefly confined to the administration of wine and tonics. The clinical history was involved in much obscurity. It would appear, from the patient's account, that about a year ago he suffered from severe pain in the abdominal region, which commenced at its lower part, and gradually extended upwards, and that nine months ago an opening took place in the abdominal parietes, from which matter was discharged. This opening has since continued. On examination Dr. W. hazarded the opinion that the original disease was one of tubercular peritonitis, implicating the mesenteric glands, and finally giving rise, by means of the portal circulation, to the formation of hepatic abscess. He was chiefly led to this conclusion from the yellow colour of the discharge, which, mixed with pus, made its exit through the opening above adverted to. This opening was exactly midway between the lower border of the xiphoid cartilage and the umbilicus. On attempting to pass a probe through the orifice so much pain was induced that the attempt was abandoned, but on using moderate pressure above, a limited supply of the peculiar fluid could be obtained. The quantity discharged at night was so abundant as to coat the epigastric and umbilical regions, as well as to permeate the dressings. The patient having lingered for about three weeks in hospital, expired on the 13th of the present month. In three hours after death a hasty examination was made, for the purpose of verifying or falsifying the opinion which had been guardedly given to

the surgical class of the hospital as to the nature of the lesion which existed. On opening the abdomen there was no small difficulty experienced in introducing the hand between the liver and diaphragm, so intimate were the adhesions which prevailed; and when these were overcome no less difficulty was encountered in endeavouring to separate the organ from its posterior attachments. On removal of the gland (prior to which the opening in the parietes was traced to its origin, which was found to have been an abscess of the size of a filbert situate in the left lobe), a large quantity of purulent matter made its escape into the abdominal cavity, which also contained a considerable amount of serous fluid of an opalescent character, through which floated detached portions of thin and soft lymph, mingled with deposits of softened tubercular matter. The liver, which was exhibited to the society, displayed upon its convex surface and posteriorly a large number of abscesses of various sizes. No demonstrable communication was found between these, or any of them which were examined. It is difficult, however, to imagine how the small abscess connected with the opening in the parietes could have supplied so copious a discharge as that above adverted to.—*January 19, 1867.*

Acephalous Fetus.—Dr. M'CLINTOCK said that he wished to exhibit to the Society a very good example of a monstrosity in the human subject which, happily, is not of frequent occurrence, but still sufficiently rare to make it worthy of being brought forward before the Society. This fetus was born in the Dundalk Workhouse, and was sent to him by Dr. Gartlan, of that town, two or three days ago. Owing to the coldness of the weather it has preserved its appearance perfectly, and is just now the same as it was at the time of its birth. It is an example of an acranial or acephalous monstrosity. I cannot say that it presents any unusual or strange appearance different from what is ordinarily found in this variety. I got no history or details of the case, and I have not had opportunity or time myself to make any dissection of it, so that I can only speak of its external characters. It weighs 4 lbs., so that, excepting the want of brain and neck, it is a tolerably well developed fetus. It is of the female sex, and its limbs are all perfect. It is very rare, indeed, in an acephalous monstrosity, to find the extremities perfectly formed. Coming to the other parts of the body you will see that there is a double hare-lip. The face is nearly horizontal. The tongue is projecting, which is owing, in a great degree, to the imperfect development of the inferior maxilla. There appears to be no neck, the head being shrunk down between the shoulders. There is a total deficiency of brain and a great deficiency in the spinal column. I cannot state whether the nervous structure of the spine may not be absent also. The eyes, as well as I can judge, are properly developed. We can well understand, by

looking at this instance, why these fetuses should have got the name given to them by the Germans—that of the cat-headed fetus, for it is not unlike the head of a feline animal. We can also see the propriety and fitness of the name given to them by the French—that of *tête du crapéau*, or frog's head, which it is not at all unlike. It would appear as if there was an actual deficiency in the vertebral column, but such is not strictly the case. If closely examined we will find the rudiments of the several cervical vertebræ, but very imperfect, and appearing to have been squeezed or fused together so as to take very much from the length of the neck. We can quite understand what the condition of the vertebræ is by looking at this skeleton of an acranial monster, prepared by Dr. Foot, a description of which was laid before the Obstetrical Society. Here is the head, and you can easily see what an exact resemblance it has to the head of a frog. In the cervical vertebræ there was the same condition as in the recent specimen before us, only in an exaggerated degree. The vertebræ took a great curvature anteriorly, and there is a total deficiency of the posterior plates.

This fetus was evidently alive up to the time of birth.—*January 19, 1867.*

Disease of the Mitral Valves.—DR. JENNINGS exhibited a specimen of extreme obstruction of the mitral orifice, which he considered peculiarly interesting, as furnishing further proofs, in addition to the details of some similar cases which he had produced before the Society during the past session, of the frequent absence of morbid sounds in this variety of cardiac lesion. It was obtained from the body of a man, aged thirty-two, of emaciated appearance and intemperate habits, to which he attributed the origin of his illness. He was admitted into hospital on the 10th instant, suffering from difficulty of breathing, occasional orthopnea, cough, cardiac pain and palpitation, which latter symptom first attracted his attention about eighteen months previously, when he perceived that the slightest hurry or exertion induced rapidity and irregularity of the heart's action, accompanied by vertigo, which compelled him to grasp the nearest object for support, but which had never advanced to complete unconsciousness, nor had he ever suffered from seizures of an anginal or pseudo-apoplectic character. He also stated that in the course of the following months fugitive swelling of his face and feet further excited his alarm, and that since then his suffering had steadily increased, unalleviated by any treatment he had received.

When first seen attention was instantly attracted by the dusky complexion and intense anxiety of his countenance, although at the time he was lying on his back, unusually free from distress. The jugular veins were seen thrown into strong relief, distended to the utmost, and pulsating synchronously with the ventricular systole. The chest having

been exposed, tremulous motion of the heart was observed over a very extended area, reaching from the left nipple to the epigastrium, and this cardiac action was found, on auscultation, to be irregular spluttering, all ordinary rhythm being lost, and replaced by the most intensely rapid succession of systolic taps, interrupted by occasional pauses; neither then, nor on subsequent examinations, could bruit, or ordinary second sound, be discovered either at the base or the apex of the heart, nor pulsation at either side. Posteriorly, both sides of the thorax were semi-dull, and coarse puerile respiration was everywhere audible.

On the following day, as also occasionally afterwards until his death, which occurred on the 15th instant, he suffered from hemoptysis, but not to any serious amount.

Dr. Jennings remarked that although there might not exist any individual murmur or other symptom, specially diagnostic of any particular cardiac lesion, nevertheless when, as in the case under consideration, so many indications of a positive and negative character were grouped together, viz., the existence of hypertrophy, and rapid and laboured, yet fluttering and irregular, cardiac action, contrasted with weakness or even total absence of radial pulse, the absence of all morbid murmur, the presence of venous stasis and pulsation, he considered that they constituted a train of evidence conclusive of the existence of mitral contraction. In his opinion, the practical physician was not at liberty to attach any value to the so-called *pre-systolic* murmur maintained by some to exist in the affection, as he had to repeat his belief, formerly expressed, that the parallel that had been drawn by Sir Thomas Watson between the sounds induced by the flow of a river under a small arch and of the blood through constricted openings, only held true of its *direct* escape through the aortic and pulmonic outlets, the thin walls of the auricles not possessing sufficient power to induce any such sound. This remark he did not, of course, intend to apply to cases of regurgitation through the mitral and tricuspid apertures; murmurs would, no doubt, exist under such circumstances, but would necessarily be *systolic* in character.

On opening the pericardium, the heart, as had been anticipated, was found enlarged. Both auricles were nearly double the ordinary size, the right being filled by an immense gelatiniform polypus, which, when removed, accurately represented the internal aspect of the cavity; the left was occupied by dark-coloured coagulated blood.

The lining membrane presented some scattered patches of scarlet colour—the seat of incipient atheromatous deposit.

Both ventricles were firm to the touch, red in colour, and hypertrophied. Their apices were on a level, and separated by a sulcus a quarter inch in depth. On a section being made, the thickness of the apex of the right was found to measure $1\frac{3}{4}$ inches, and the “*carneæ columnæ*” were seen developed to an unusual degree. Its cavity contained a large polypoid concretion, which extended for a considerable distance into the pulmonary artery; the left was nearly empty.

The tricuspid opening measured in circumference $5\frac{1}{2}$ inches, and the posterior division of its valve contained a large circular opening capable of admitting the index finger.

The mitral valves were converted into thick osseous plates, presenting at their free margins the well-known semi-lunar fissure.

The zona tendinosa surrounding this aperture was converted into a mass of bone of a circular form, and extending into the muscular structure of the ventricle to the depth of fully one inch. Springing from its auricular aspect was seen an irregular mass of warty vegetation, gritty to the feel, and very brittle—in fact, one or two particles were found detached in the auricle. These vegetations overhung the narrow fissure of communication, and must have greatly added to the difficulty of passage otherwise produced. One long ridge stretched round in the posterior wall of the auricle to near the attachment of the appendix. The pulmonary veins were greatly distended with blood, but their orifices did not seem sensibly enlarged.

The aorta was reduced in size, and the lining membrane of both arteries and veins was of a bright scarlet colour.

The lungs presented several spots of recent apoplectic extravasation.—
February 19, 1867.

Acute Myelitis.—DR. M'SWINEY said the patient from whose body the parts before the Society were taken was a boy, aged ten years, who was admitted—in strong convulsions—into Jervis-street Hospital on the morning of the previous day.

When Dr. M'S. saw him he was absolutely insensible—his face was pale; his eyelids were nearly closed; his eyes, instead of being, as is common in convulsions, turned up in a fixed manner, or moving from side to side, were rolling in a circular manner round the orbit; the pupils, at first dilated, were afterwards rather contracted, and responded to the stimulus of light. He was convulsed continually over all the body in the most violent manner that he had ever witnessed. The convulsions, which were epileptiform in character, affected both sides of the body equally; his hands were flexed, with the thumb drawn into the palm; his muscles, during the entire time he lived, were rigid, especially, of course, during the paroxysms; his back was stiff and bent, and he was evidently in the first stage of what became, in the progress of the case, confirmed opisthotonos.

The history which he received of the case was almost exclusively of a negative character. He had received no hurt; he had suffered from no violence or accident; he had not been known to have partaken of anything noxious to which could be ascribed the production of the convulsions. His mother stated that he had been quite well, as far as she knew, when

going to bed the previous evening. She thought she remembered that he had complained of pain in his head. One circumstance of much importance in his (Dr. M'S.'s) opinion was mentioned, namely, the boy had, in common with numbers of the poor during the late very inclement weather, suffered much from cold and privation of food. He slept at night on a little straw, that was sometimes damp, and was rarely supplied with any covering save an old rug or sheet. He had gone to bed in his usual health the evening before, having eaten his supper heartily, and nothing more was known about him until in the morning he was noticed by his father to get up at seven o'clock and go out to pass water, as was his custom. He returned from having, probably, performed that operation, and in a few minutes the father noticed him to be in a "fit," and working in convulsions. He was brought to hospital shortly afterwards, and continued for fifteen hours, with scarcely one instant's cessation or intermission, working in these frightful convulsions without regaining consciousness for a moment, until released from his sufferings by death. During the attack there was scarcely any vomiting; once or twice he retched a small quantity of a mucous fluid, but that was all.

He was, naturally, most anxious to discover, if possible, the source from which these fatal convulsions had arisen; and he, therefore, had, in the first instance, the abdominal cavity examined. The intestines were cut open, with the view of ascertaining if there were any worms or other irritants in their tract, but none such were discovered. He also removed the kidneys, and found them in a perfectly healthy condition. The stomach contained a small quantity of the ordinary fluid proper to the healthy organ, and was not in the least inflamed. He next proceeded to examine the cerebro-spinal system. The process of taking out the brain and spinal marrow was one attended with so much difficulty and loss of time, he thought it due to Mr. M'Mullen, his talented and very attentive clinical clerk, to say that they had been taken out by him in a very careful and perfect manner. There was no evidence of any organic disease about the brain, but it was greatly and universally congested on the surface. The spinal cord, covered by its membranes, looked as if it had been dipped in blood, so intensely red and congested was it. Upon passing the finger along the cord there was distinctly to be felt, at a part corresponding to the lower dorsal vertebræ, a pulpy, softened portion, about two inches long. Upon splitting open the cord at this point—as he did now—it was found to be remarkably soft; in fact, diffuent, contrasting strikingly with the white, firm, normal structure higher up.

Here, then, Dr. M'Swiney said, in this well-marked myelitis was situate the cause of death. It was, perhaps, the most rapid case of softening of the cord on record; for it cannot be held that it existed before the attack of convulsions.

It also afforded, he thought, a well-marked example of acute myelitis

excited by damp, cold, and privation of food—causes which have sometimes been considered to have given rise to the affection.—*February 9, 1867.*

Bright's Disease.—DR. M'SWINEY said the morbid specimens which he now exhibited were taken from the body of a man, aged between fifty-five and sixty years, who presented himself at the dispensary of Jervis-street on Wednesday morning last, in a moribund state, and died on Thursday evening. His history was as follows:—He had been a soldier of the 18th Royal Irish; had been in China with Lord Gough, and engaged in active service for many years. He had been singularly healthy all his life, and remarkably temperate; and when on foreign stations had suffered only from ague. He had very considerable cedema of the legs when he presented himself at the dispensary; he had a tumefied abdomen, which pointed to the presence of fluid in the peritoneum; his respiration was fearfully accelerated and most distressingly difficult; his face was deadly pale, and his lips were blue; the heart's action was very rapid and disturbed, but not capable of conveying the impulse to the wrist, although exceedingly loud and apparently strong in the chest. His dyspnea, which was so great as to amount to orthopnea, was so distressing, that the least interference with him produced the utmost uneasiness—so much so, that no persuasion could induce him to take off his clothes, although dying; and he died dressed and standing up.

Dr. M'Swiney had no opportunity of examining the urine during life, but after death he introduced a catheter and drew off an ounce, which, on testing, he found to be highly loaded with albumen.

The kidneys presented a well-marked instance of that organic change called Bright's disease. The right kidney was of medium size and somewhat nodulated. The capsule peeled off with the greatest facility; the entire capsular surface was mottled in the ordinary manner peculiar to this form of the disease, and on opening the kidney its secreting portion was found to be all destroyed—a thin, long line of cortical substance was all that remained. The opposite kidney had not been touched as yet, and Dr. M'Swiney now showed with what facility the capsule peeled off, thus marking one of the varieties of this disease with the duplex symptoms of dropsy and albuminous urine. The liver was congested, and was adherent by rather easily broken down bands to the under surface of the diaphragm. The heart was large, and a considerable amount of fat existed on its surface; and no doubt, from its softness and the facility with which it was broken up by the fingers, interstitial fat also existed. The valves were healthy. The lungs looked, anteriorly, quite healthy, but on proceeding with the examination of the chest it was found—1st, that there was a considerable amount of adhesion on both sides between the opposed

surfaces of the pleura; 2nd, the chest contained about three pints of serum. Finally, the lower two-thirds of both lungs were splenified, contained no air whatever, and sank in water.

On the whole he thought this case was a good illustration of what took place during the progress of diseased kidneys, followed by fatty heart, and then unexpectedly influenced by the extremely cold weather, which, lately, has proved so fatal to persons already ailing. In fact, it might be laid down as a proposition that it made all the difference between life and death whether the thermometer stood at 50° Fahr., or 10° below the freezing point, in the case of persons already in a delicate state of health. The immediate cause of death in this case was pleuritic effusion compressing the lungs, and producing the most distressing dyspnea that he had ever witnessed.—*February 9, 1867.*

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.^a

TWENTY-NINTH ANNUAL SESSION.

DR. SAWYER, President.

Pregnancy Complicated with Subacute Peritonitis.—DR. RINGLAND briefly detailed the particulars of a case of pregnancy complicated with subacute peritonitis and ascites, which appeared to him to possess considerable interest, owing to its very exceptional termination.

Ellen Brown, a delicate-looking Scotchwoman, and apparently in very poor circumstances, was admitted into the Coombe Lying-in Hospital on the 13th of February, 1866, having just entered into the ninth month of her seventh pregnancy. Her first four pregnancies terminated at full term, and her convalescence in each instance was favourable. Her two subsequent pregnancies terminated prematurely at seven and seven and a-half months respectively, and her convalescence was, on both occasions, tedious and imperfect.

In the second month of her present pregnancy she felt at the umbilicus a constant dull pain, which, as time passed on, gradually extended, radiating from the point of origin, until almost the entire of the anterior walls of the abdomen became involved. Coincident with the first existence of the pain her abdomen abnormally enlarged, the umbilical fossa becoming gradually obliterated, and the skin presenting a tense glossy appearance; there was, however, no œdema of the lower extremities.

Despite these circumstances she experienced no pressing inconvenience

^a These Reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

during the first four months of her pregnancy, with the exception of an inability to sleep as soundly as usual. At the end of that period, however, dyspnea ensued, and the pain was at times intensified and more acute in character than previously. A troublesome cough—unaccompanied, however, by expectoration—shortly ensued, and an almost constant diarrhea greatly aggravated her distress. The quantity of urine voided was somewhat, but very little, in excess of the amount usually secreted by her, and she had never observed any alteration from its customary appearance. She at all times retained complete control over the sphincter. She has been, of necessity, obliged, for a considerable time, to remain in bed, but almost always in the upright position.

From the 5th to the 13th of February she was under treatment as an extern patient of the Institution, and was admitted on the latter date in consequence of great aggravation of her previous symptoms. Her size was now enormous; fluctuation was distinctly experienced over the entire of the abdomen; the outline of the uterus could not be felt; the pain hitherto existing around the umbilicus was aggravated by the least pressure; diarrhea was persistent; urine normal in quantity, and but slightly albuminous; she was greatly emaciated; her countenance was pinched, her tongue loaded, and her pulse 120—small and wiry.

Labour set in on February 23rd, three weeks before the completion of her full time. All the stages were short, and at its close she experienced considerable relief, more especially as regarded respiration and pain. The size of the abdomen, however, was but little diminished, and fluctuation remained as distinct as previously. The uterus could not be felt through the abdominal parietes, but manifestly contracted well, the placenta having been easily expelled without any hemorrhage whatever.

About twenty-four hours after the completion of her labour, she felt a sudden rushing away of a large quantity of fluid; and the attention of the ward nurse having been immediately directed to the fact, the bed was found deluged with the discharge, of which several quarts were collected. The resident medical officers having been summoned, they ascertained that this fluid was eliminated per vaginam, and was entirely free from colour; that the abdomen had almost altogether subsided, and that the uterus could be easily felt well contracted in the pelvis. About an hour afterwards their attendance was again required, in consequence of a second discharge of fluid, very considerable in amount, yet infinitely less than on the preceding occasion. No lochia whatever was established, yet no untoward symptom of any kind supervened. She progressed rapidly to convalescence, and was discharged from hospital, at her own request, on the 5th of March, the eleventh day after delivery, no fluid appearing at that time to exist in the abdomen.

About ten days subsequent to her return home, however, the abdomen again enlarged, but was soon restored to its normal size by the discharge,

as before, of a large quantity of fluid; and this process was repeated on four subsequent occasions, two days having intervened between their respective recurrences. On the seventh day from the last of these discharges she perceived slight leucorrhea, which subsequently increased in quantity.

Mr. William Ormsby-Weir, the pupil midwifery assistant of the Hospital, who visited her from time to time, and who has most carefully collected the particulars of this interesting case, reports that, on the fortieth day from her labour, the ascites had altogether disappeared, that there existed no abdominal tenderness whatever, and that she was entirely free from cough and dyspnea; that she, however, complained of a dull constant pain in the lumbar region, and of slight bearing down pain when standing or exerting herself too much; but that, with these exceptions, her health and strength were completely restored, and that her appearance and condition were greatly improved.

In the consideration of this case, the question naturally and of necessity suggests itself, what was the *modus operandi* whereby the ascitic fluid was eliminated from the peritoneal cavity? This must, however, be in a great degree conjectural; but the most probable solution of the enigma appears to be, that, under the influence of the *vis medicatrix naturæ* the Falopian tubes became enlarged in calibre, and were converted into drainage pipes for the specific purpose.—*May 12, 1866.*

NOTE.—This paper was read during preceding Session, but not supplied for publication in time for the report.

A Case in which a Subperitoneal Fibrous Tumour of the Uterus Pressing on the Rectum was Raised from its Position by Hydrostatic Pressure. By JOHN RINGLAND, M.D.

M. B., a servant, aged 36, and apparently in robust health, came under my observation towards the close of last March, and was admitted into the ward for the treatment of the diseases of females in the Coombe Lying-in Hospital, on the 29th of that month. She had been married about fifteen years, but had not lived with her husband for the last six. She is the mother of five children, and nothing of an abnormal character attended any of her labours. She had menstruated regularly and healthily from the age of fifteen until about four years since, when she first experienced pain at each catamenial period, but there was no increase in either the quantity or its duration; some leucorrhea, however, persisted from this period during the entire of the intervals. During the last three years she at times suffered an uneasiness—at first not amounting to pain, but subsequently becoming much aggravated—in the sacral region, which was occasionally persistent for two or three weeks together, and

this was followed by an intermission of a somewhat like duration. She experienced the greatest amount of relief when in the recumbent position, especially when lying completely on her back; she could not, however, for more than two years past, lie on her left side, for even the shortest time, without intense pain. Her bowels have been always regular; but she suffers much pain at defecation, whether the evacuation be solid or fluid—to a much more considerable extent, however, in the former case than in the latter; the feces, moreover, when solid, invariably flattened.

On a vaginal examination, the os uteri was found to occupy its normal position in the pelvis; but a tumour of the firmness and size of the fundus of the uterus was found in the hollow of the sacrum, so firmly wedged down that no moderate amount of force by the finger, such as I felt justified in using, could reduce it; while no body, in any way resembling the uterus, could be felt by the hand placed above the pubes.

Every effort was made first by myself, and subsequently by Dr. Kidd, to pass the ordinary uterine sound into the cavity of the uterus, with the view to the reduction of that organ; but owing, in fact, to the great acuteness of the angle of flexion, which we subsequently satisfied ourselves had existed, and partly to the great patency that we found in the entire of the canal of the cervix, which offered no resistance whatever to the point of the instrument, but permitted it to slip out so soon as the least pressure was made against the superior portion of that canal, which was both curved and contracted, we both failed in effecting our object, until the anterior lip was caught by a tenaculum and the cervix brought down towards the floor of the pelvis, whereby, in a measure, the curve in the canal of the uterus was obliterated, and the whole of its cavity rendered approximately straight. The sound, which could now be introduced without much difficulty, as it passed, took a direction completely backwards towards the sacrum, and indicated an elongation of the uterine cavity by the extent of somewhat more than half an inch.

After the replacement of the uterus, which was effected with great ease, no alteration was found in the position of the tumour we had from the first felt in the hollow of the sacrum, although to the hand placed above the pubes the fundus uteri was now distinctly perceptible, moving freely with the movements of the sound. On examining per rectum, the finger could pass freely for about three inches, when its further progress was completely obstructed by the tumour, which lay almost in apposition with the sacrum, the walls of the rectum, as it passed round it, being quite in contact. The tumour was very firm, of globular shape, and attached to the uterus posteriorly, at about the junction of its body and cervix, by a small flat pedicle, which, on account of the great flaccidity of the abdominal parietes, could be easily traced, the manipulation and mode of examination for the purpose being that recommended by Dr. Marion Sims.

All manipulation per vaginam and per rectum having failed to move the tumour from its position, it struck me that a proceeding somewhat resembling that employed by the late Dr. Halpin, of Cavan, for the reduction of a retroverted pregnant uterus,—namely, by means of a bladder introduced into the vagina and then inflated with air, as described by him in a communication to this Society on the 2nd of January, 1840, which was published in the early series of the *Dublin Journal* for March of that year—but differing as to the individual details, might have the desired effect; and Dr. Kidd having coincided with me as to the feasibility of my suggestion, I introduced into the rectum a medium-sized Barnes' uterine dilator, the upper end of which was thus beneath, and in immediate apposition with the tumour; and the dilator having been gradually distended to its fullest extent with water from an ordinary syringe, I found the tumour moving from my finger, which I had placed in the vagina to ascertain the effect produced, and eventually passing entirely above the brim of the pelvis. A Hodge's pessary was then introduced with the view to maintain the tumour above the pelvic cavity and the uterus in its normal position.

The sacral pain was at once relieved, and she could walk without inconvenience, but for some days she had a slight bleeding from the rectum during defecation, which yielded to suppositories of tannin; she also complained of some difficulty in micturition, but this passed away without treatment.

I examined her on two or three occasions previous to her leaving the Hospital—which she was compelled to do sooner than I wished—and found that the pessary had maintained the tumour above the brim of the pelvis. On the date of her discharge, however, I learned that owing to the entire perineum having been lacerated in her first labour, the pessary, not having adequate support, had come away three days previously; and I greatly apprehend that the tumour will again descend within the pelvis, so soon as she resumes her occupation. Should this be so, the formation of a false perineum will, I conceive, give due support to the pessary, which, on its part, will, I feel no doubt, maintain the tumour in a position that will preclude pressure on any of the soft parts contained within the pelvis.

The peculiar position and pediculated form of the tumour in this case, together with its complication with the retroflexion of the uterus, are points of special interest, and it appears to me that it is by no means improbable that the former preceded and was the cause of the latter; in fact, I am of opinion that the tumour, placed as it was in almost direct apposition with the sacrum, and attached to the centre of the posterior wall of the uterus, pressed, in its growth, that point of attachment towards the pubes, whilst the cervix remained in its normal position; and that this pressure having been long continued, and become more

considerable as the tumour enlarged in size, eventually induced the yielding of the muscular structure of the body of the uterus, and the consequent flexion of its fundus backwards.

For the simple mode whereby the tumour was removed from the cavity of the pelvis I merit no credit, save the adaptation to this individual case of means which had proved successful, in Dr. Halpin's hands, in cases somewhat analogous; and it may not be out of place here to mention that twelve years subsequent to the date of this ingenious suggestion, another eminent member of our profession, Dr. Favrot, submitted to the Académie de Médecine of Paris a proposal to effect the same object by almost identical means,—a caoutchouc bladder introduced into the rectum, and then inflated by means of an India-rubber bottle and tube with stop-cock, being substituted by the latter for an ordinary bladder placed in the vagina, and distended with air through a catheter, as recommended by the former. A sketch showing the application of Dr. Favrot's apparatus is to be found in the *Dublin Quarterly Journal of Medical Science* for May, 1852, pp. 387, 388.

Dr. Halpin, in a paper in the *Dublin Quarterly Journal* for November, 1852, p. 491, mentions that the "*Réducteur à Air*" in the simple form recommended by him was successfully employed for a similar purpose by Dr. Brunker, of Dundalk, in 1844, by himself again in 1847, and by "other distinguished members of the profession." He at the same time takes exception to the apparatus suggested by Dr. Favrot on the grounds that "a caoutchouc bladder, with walls thick enough to bear a pressure of air that may be necessary to restore the uterus to its normal position will be found too clumsy to admit of its easy introduction into either the vagina or rectum." I cannot, however, agree with Dr. Halpin on this point, as I experienced no difficulty whatever in the introduction of Barnes' caoutchouc dilator. In conclusion, I shall merely add, that as I employed water for its distension, instead of air, as used by both Drs. Halpin and Favrot, I cannot offer an opinion as to the relative mechanical efficiency of these two agents, but can only express myself as thoroughly satisfied with that which has proved in this instance successful in my own hands.—8th June, 1867.

DR. A. W. FOOT read the following report of the Dissection of a Monster :

Dr. M'Clintock kindly gave me the malformed fetus, whose skeleton I exhibit this evening, on conditions that I would report upon the nature of its deformities to the Obstetrical Society. Upon dissection it proved to be an example of arrest in the formation of the brain and spinal cord, co-existing, as is usual in these cases, with a special and very constant developmental failure in the vertebro-cranial canal; and superadded to these fatal defects are the less rare lesions of double fissure of the palate and double hare lip. Hard names have been invented to express each of

these malformations by writers on teratology, but the explanation they generally require is an obstacle to their common employment. Two years ago I was enabled, through the kindness of Dr. Cronyn and Dr. Telford, to read an account of the dissection of a monster similar to the present one before this society, and so strong is the likeness between the two that the photographs which I had taken of the former would pass for representations of the present specimen in its recent state. Vrolik remarks upon the interesting constancy of appearance which the subjects of this form of monstrosity present, on which account the malformed fetuses resemble each other nearly in every museum, and he thinks this a proof that the origin of the malformation cannot be accidental.

I am not in possession of the facts connected with the birth of the fetus or the history of its mother during her pregnancy. It would be interesting to know if the liquor aminii was in excess, as in the case which I exhibited here on a former occasion. The liquor aminii, in that case, was very abundant, and Dr. McClinton, in a paper on dropsy of the ovum, has shown that a morbid excess of liquor aminii, or perhaps the morbid action from which it results, seems to be very unfavourable to the well-being of the fetus. This fetus, as the former one, was of the female sex; it weighed three pounds ten ounces and a quarter, and from the forehead to the heel measured twelve and a half inches; its extremities were normal in all their parts, well formed, and covered with a layer of adipose tissue, in some places a quarter of an inch thick. Though small and light, it bore the external marks of a mature fetus; the nails reached the tips of the fingers, the eyelids were open, and the pupillary membranes absent; the labia majora concealed the clitoris and entrance to the vagina, the rectum contained dark olive-green viscid meconium, the skin was free from down, and covered more or less with vernix caseosa, while dark hairs an inch and a quarter in length fringed the sides of the deformed skull. The flattened head, implanted between the shoulders, presented, in place of a calvarium, a tough, red membrane continuous over the frontal bones and along the sides of the head, with the common integument. This membrane extended backwards along the spine towards the sacrum, tapering to a point at the commencement of the lumbar vertebræ. The brain was represented by a thin layer of sanguineous pulp, which occupied the shallow space between the base of the cranium and the tough, red membrane which was stretched across the top of the head between the lateral boundaries of the skull. The parietal, the temporal, and the lateral portions of the occipital bones were widely separated and distorted, both by the floor of the skull being pushed up like a wedge between its sides, and by a strong lateral curvature to the right side, which brought the posterior parts of the cranium on the right side much nearer the sacrum than those on the left. The entire vertebral canal was open posteriorly, forming a wide shallow groove, whose floor

was formed by the posterior aspects of the bodies of the vertebræ. There was no appearance whatever of a spinal cord in any part of this groove, which was immediately laid open by raising the red membrane in the upper two-thirds of the back, and the common integument in the lower third of the back. The central extremities of the spinal nerves were seen occupying the intervertebral foramina; they terminated abruptly in this situation, being connected with the tough fibrous lining of the exposed and vacant vertebral canal. In a similar manner were seen the central ends of some of the cerebral nerves; the second pair, and the divisions of the fifth were the most distinct. The peripheral distribution of the nerves, both cranial and spinal, was regular, as far as was exhibited in a dissection not made specially for the study of the nervous anatomy. The ribs on the right side were closely crowded together, and encroached very much upon the cavity of the thorax in consequence of the strong lateral curvature of the spine. The viscera of the thorax and abdomen presented no anomaly.

In reporting upon this fetus I have confined myself strictly to a mere description of its appearance and condition, without discussing its etiology. It was one of those species of malformations in which the brain and spinal cord are either entirely absent or in the merest degree rudimentary, a defect usually accompanied with deformity of those parts of the skeleton subservient to the protection of the cerebro-spinal axes.

TRANSACTIONS OF THE COUNTY AND CITY OF CORK MEDICAL AND SURGICAL SOCIETY.^a

SESSION 1866-67.

DR. CREMEN, President, in the Chair.

Cholera.—*A Report of Thirty-eight Cases of Cholera Occurring Consecutively in the City of Cork during the Outbreak of this Year (1866); Recording the First Case and Introduction of the Epidemic.* By F. A. PURCELL, M.D., M.R.C.S.; Secretary to the County and City of Cork Medical and Surgical Society.

A great deal has been said and written both for and against contagion of cholera. Being fully impressed that cholera is contagious, I am induced to seek and to bring before you any positive fact that I can substantiate. I look on it as a thing of the greatest importance to record the means whereby cholera is introduced into a place. I may be asked why is it that, in these days of easy and rapid transit, cholera did not long before

^a These reports are supplied by Dr. Purcell, Secretary to the Society.

appear here, more especially since Cork is in constant communication with London, Bristol, Liverpool, Dublin, and many other places where the epidemic has been raging, including Mallow, a town twenty-one miles off? My answer is, that though a person may come to a place direct from a district in which cholera is raging, yet that person and his clothes are exposed to one of our very best and truest disinfectants, namely, currents of pure air. To this I attribute our exemption for so long a time. In every epidemic of cholera we have had sporadic cases recorded occurring some weeks previous to the outburst; time, therefore, is given for the dissemination of the poison. In 1832, in Cork, the first case of cholera was a child, eleven years of age, on the 5th of April, and died in thirteen hours. No case then occurred until the 13th and 14th, when several well-marked cases occurred in the neighbourhood of the Coal-quay and Paul-street. This locality is low, and consists of narrow, ill-ventillated lanes, having a densely crowded population, living in poverty, wretchedness, and filth. In 1832 a strict quarantine was established upon all vessels arriving in the harbour from suspected ports. The epidemic had existed for some weeks in Dublin before it appeared in Cork. From the 16th April to the 8th of May 308 cases of cholera were entered on the books of the North Charitable Infirmary, of which sixty-seven died. It was remarked at that time that the majority of patients who were first attacked were old army and navy pensioners, poor market women, and prostitutes. Scarcely one of the former or latter class survived. The number of females attacked was very nearly three times that of the males.

On the 7th of September of this year (1866) I find recorded on the books of the Fever Hospital a case of cholera, my attention being drawn to it by Dr. White, the resident physician, from which I take the following. She was admitted under Dr. McEvers.

Margaret Barrett, aged thirty-five, married, 1, Little Cross-street, sent by Dr. Wycherley (this is off the flat of the city).

Sept. 7th.—Had vomiting and purging since twelve o'clock last night, till two the day admitted. Pulse imperceptible; tongue foul and moist; lips cold and livid; extremities cold; purging and vomiting ceased.

Ordered half a drachm of tincture of opium and of aromatic spirit of ammonia in brandy and hot water.

Hot jars to feet; hot water bags to stomach.

Nine o'clock.—Vomited again, and cramps; sinapism to pit of stomach, &c. No record of the urine. She recovered, and was discharged from hospital September 21st.

There is no doubt that this was a pure case of Asiatic cholera, and luckily recovered. She was let go out of hospital without much questioning. I have since met her, and the following is her own story. She is poor, with one child; her husband a constant inhabitant of the work-

house. On the Monday before she was attacked (August 30) she bought two pairs of old corduroy trousers, in order to mend them, and turn an honest penny, from a woman at the North Gate Bridge Hill, who had imported a lot of old clothes from London, those among the number. This woman had been prevented selling these articles by the police, and, in consequence, took them to Bandon, where she was again prevented. She returned with them to Cork. Barrett bought these two pair of her cheap. She mended and sold one pair the same day to a woman at the South Gate Bridge. The second pair she intended to cut up and make suitable for a boy, but sold without doing anything to them for the use of repairs, on Monday, September 6th, the day she was attacked; she therefore had the second pair lying in her room a full week. I have no reason to doubt this woman's story, and therefore place a great deal of importance to it.

Four deaths then took place at No. 21, Great Britain-street, at the north side of the town between the 29th of September and 6th of October, two of which, though not seen by a medical man, from their history I have no doubt were cholera. They were two beggars, a man and wife, named Mullane, both old. They had, some ten days previous, travelled from Mallow, and put up at this house. On Saturday night the wife, aged sixty-five, was attacked with purging and vomiting and cramps, and died Monday morning, October 1st. The husband, aged seventy, on returning home after burying his wife, was attacked and died Tuesday morning, twenty-four hours ill. The two other deaths were children, twenty months and eight months respectively, of a man named Walsh, who came from Queenstown, September 24th. These Dr. Callaghan saw, and reported not cholera.

Oct. 4—Case 4.—The next well-marked case was that of Mrs. Kelleher, aged thirty, living at 2, Cross-quarry-lane. She was at work, washing during the day, Thursday, 4th October, at Mrs. Reardon's, the owner of 21, Great Britain-street. She was attacked at seven o'clock with vomiting and purging, and died Friday night, twelve o'clock; twenty-nine hours ill.

2, Cross Quarry-lane stands over and above 99, Clarence-street, a slaughter house, a nest of filth, with an abominable stench. No communication from the yard to the street sewers.

Oct. 6—Case 5.—Morey, a child aged nine years, 68, Fair-lane, a butcher's child; the father a drunkard, and all the family in abject poverty; attacked 3 o'clock, a.m., Saturday, 6th October. Characteristic rice-water purging and vomiting; cramps, loss of voice; surface cold and shrunken; suppression of urine; died same day, 5 p.m.

Oct. 6—Case 6.—Healy, Margaret, Blaisley-street, working at a Mrs. O'Neil's, 109, Clarence-street, corner of Quarry-lane; attacked 6th October; died on the next day, 11 a.m.

Oct. 7—Case 7.—Denehy, Wm., a clerk; consumptive; 5, Water-course; attacked 4 a.m., 7th October; died same day, 10 o'clock p.m.

Oct. 7—Case 8.—Doyle, Paddy, aged forty, lodging at Mrs. Rear-don's, 21, Great Britain-street, the fourth in connexion with this house. Came from Fermoy the week previous; became exceedingly nervous and frightened on hearing of the four that had died in the house; attacked October 6th; went to the Fever Hospital October 7th, and died Monday evening, October 8th.

Oct. 7—Case 9.—Sheehan, Hannah, aged twenty-three, nursing, 104, Great Britain-street; attacked with vomiting and purging October 7th; had consecutive fever, and recovered.

Oct. 8—Case 10.—Walsh, Ellen, aged thirty, servant at O'Keefe's, publican, 91, Great Britain-street; attacked October 8th: sent to hospital; died October 11th.

Oct. 8—Case 11.—Manning, Donald, aged forty, lodging 14, York-street; purging since the 4th; sent to hospital October 8th. Recovered.

Oct. 9—Case 12.—Mahony, Leah, aged eight, 23, Moriarty's-lane; attacked 10 a.m., October 9; sent to hospital; died October 12th.

Oct. 9—Case 13.—Mahony, John, aged fifty, father of the last; attacked same day, October 9th, while at work: sent to hospital; died October 11th.

Oct. 10—Case 14.—Walsh, James, aged forty, 3, Bridewell-lane, the locality of Case 1; sent to Fever Hospital October 10th: dismissed; was attacked subsequently, and died outside.

Oct. 10—Case 15.—Crowley, Mary, aged fifty, living at 24, Great Britain-street, presented herself to me at the dispensary October 10th. Whilst speaking to her she fell back from exhaustion, and passed a large rice-water evacuation. Having all the symptoms of cholera on her, I gave a dose of opium and brandy, and sent to hospital. Recovered.

Oct. 10—Case 16.—Captain —, of a brig lying off Patrick's-quay; attacked on board October 10th; visited by Dr. Callaghan, who took me to see him. Recovered.

Oct. 10—Case 17.—Ford, Mary, aged seventy, Hatton's-alley, off Great Britain-street; attacked October 10th; died same evening.

Oct. 10—Case 18.—Collins, Jeremiah, aged sixteen, 25, Gill Abbey-street, south side of the city; attacked 1 a.m., October 10th; attended by Dr. Golding and seen by Dr. O'Connor; subsequently placed under my care, and died 2 p.m., October 11th; I drew off a quart of urine from the bladder one hour previous to death.

Oct. 13—Case 19.—Shine, Mary, aged sixty, Backwater-course, Blackpool; attacked October 13th; died same day.

Oct. 14—Case 20.—Dorney, Ellen, aged sixty, 4, Quarry-lane; attacked October 14th; died same day; wife to Case 32, and grandmother to the Noonans, Cases 25, 26, 27, and 28.

Oct. 14—Case 21.—Vaughan, Hannah, aged forty, 11, Quarry-lane; attacked October 15th; died same day.

Oct. 15—Case 22.—Mulcahy, Ellen, aged three, Narrow-lane; attacked October 15th; dead when visited.

Oct. 16—Case 23.—Davidson, Eliza, aged twenty-three; admitted to Fever Hospital October 14th, for mild fever, and placed in the convalescent fever ward. She was attacked at 9 a.m., October 16th, with rice-water vomiting and purging, and was removed at once to the cholera ward. She ran through the different stages of cholera, and died in consecutive fever October 24th.

Oct. 15—Case 24.—Fitzgerald, Ellen, aged seventy, Keser's-hill, first case in Dr. Fowler's district. Sent to hospital October 15th, in collapse; died October 16th.

Oct. 15—Case 25.—Vaughan, Ellen, aged four, 11, Quarry-lane, sister of Case 21; admitted October 15th to fever hospital. Recovered.

Oct. 18—Case 26.—Noonan, Mary, aged ten, 4, Quarry-lane; sent to fever hospital October 18th. Recovered.

Oct. 18—Case 27.—Noonan, Wm., aged seven, same house; sent to hospital October 18th. Recovered.

Oct. 18—Case 28.—Noonan, Jeremiah, aged thirteen, same house; sent to hospital October 18th; died October 21st.

Oct. 20—Case 29.—Noonan, Dan., aged four, same house; brought to hospital by its grandfather, Dorney, October 20th; died October 21st.

Oct. 21—Case 30.—Callaghan, Bridget, aged twenty-five, a prostitute, from Evergreen, brought to the fever hospital from off the streets by the police, by whom she was found vomiting and purging; admitted 2 a.m. October 21st. She was progressing favourably when, at 2 a.m., October 24th, a companion of hers was admitted to the ward in collapse, which suddenly brought on again vomiting, and purging, and cramps, and she died the next morning, October 25th.

Oct. 21—Case 31.—McCarthy, Catherine, aged twenty-three, a prostitute, from Evergreen; admitted to fever hospital October 21st; died same day.

Oct. 22—Case 32.—Dorney, Dan., aged sixty-four, grandfather to the four Noonans, and husband to Case 20, that died; admitted to hospital October 22nd, and died next morning.

Oct. 24—Case 33.—Murray, Hannah, a prostitute, from Furge's-alley; admitted to the fever hospital, in collapse, October 24th; died next day.

Oct. 23—Case 34.—Collins, James, aged forty, 2, Brockalby-street; attacked October 23rd; died same day.

Oct. 23—Case 35.—Noonan, Pat., 2, Cross Quarry-lane; attacked October 23rd. Recovered.

Oct. 25—Case 36.—Wooll, Maryanne, aged five, Bennett-street; attacked Thursday night, October 25th; died next day.

Oct. 26—Case 37.—Clare, Honora, aged thirty-six, 30, Spring-lane; admitted to fever hospital October 26th; died 27th.

Oct. 26—Case 38.—Butler, Ralph, aged twenty-one, 40, Prince's-street a mason; admitted to the fever hospital, October 19th, with typhus; seized whilst in bed in the fever ward with purging and vomiting at 3 p.m., being at the time under the influence of mercury for chest complication. He died, from cholera, October 27th, sixteen hours ill.

One or two cases occurred on the flat of the city, in Dr. Cremin's district, that I have no record of; as also six cases were admitted into the workhouse, under Dr. Popham, prostitutes from the same locality as those that were admitted to the fever hospital.

Let me draw attention to Case 23. Eliza Davidson, who was attacked in the convalescent fever ward of the fever hospital with cholera, and died. Also Case 38, Ralph Butler, who was in hospital labouring under pneumonia and under the influence of mercury for same, was attacked on the seventh day from admission, and died from cholera.

As no medical officer of health is attached to the city, I am induced to record the particulars of this outbreak of cholera, and I have to thank the several medical gentlemen for their kindness in giving me every opportunity of seeing and following up the different cases that occurred in their practice.—October 24, 1866.

Diseased Bursa.—A pathological specimen, presented by H. R. HADDEN, M.D., F.R.C.S.I., Clonakilty.

This pathological specimen was taken from a man about fifty years of age, a sawyer by trade, who suffered from an enlarged patellar bursa of the right knee, which but little interfered with his work till about a year since, when the skin over the most prominent part of the tumour sloughed and left an opening the size of a florin, through which the bursa itself could be seen and felt. On Tuesday last I saw it for the first time; and as he was completely incapacitated from work, his health sympathizing, and the tumour looking rather suspicious, being covered, in spots, with fungoid granulation, with the skin, for nearly two inches around the opening of a dusky bluish-red colour, puffed and infiltrated, very unhealthy grumous pus exuding from between it and the tumour—I advised its speedy removal. Next day he was admitted to hospital, and after a few days' good feeding (for he was much broken down by intemperance and poverty) I removed it by the elliptical incisions which the specimen presents, taking care not to separate the fascia of the leg from the edges of the patella.

The points of interest are these. The *sense of fluctuation* was most *distinct*, and to even well-educated fingers would convey the idea that a small puncture would evacuate the whole contents; and as the skin

seemed so extensively diseased, I thought I would just lay the whole open with a simple incision, and heal it from the bottom; but being suspicious of it, I first introduced an exploring needle, when, to my surprise, a jet of florid blood projected along its groove with great force, and when withdrawn a stream jetted from the puncture as if from the cut end of a small vessel. Thinking that it might have come across one in the walls of the tumour, I punctured another place, but the same thing occurred, so I at once abandoned this idea and extirpated the whole mass, with the loss of not more than a wineglassful of blood, and meeting only a few insignificant vessels. The examination of the tumour solves the, to me, very puzzling circumstance at the time. Of the jets of blood, as it is found to consist of a number of compartments filled with blood in all stages of organization, and bounded by the fibro-cartilaginous septa which intersect the tumour in all directions, and which, when examined under the microscope, present a great number of nucleated cells not unlike cancer cells, but which, when treated with acetic acid, do not present any difference between the cell-wall and nucleus—in fact, the sections of these septa present exactly the appearance of Müller's enchondroma, as described at pages 170 and 343 of *The Microscope in Medicine*, by Dr. Beale. The question arises, was this tumour originally a simple enlarged bursa, into which blood was effused and organized? or is it a degenerated enchondroma?

Then, as to the unhealthy appearance of the skin, was it necessary to remove so much? To look at it now, after its removal, one would say decidedly not. Yet I imagine, from its appearance and hardness *before*, any prudent surgeon would have done so, although if one could have left a little redundant skin to allow of the flexures of the joint instead of having the lips of the wound barely closed, it would have been a great advantage. With my experience of the condition of the skin after removal as you now see it, I think I would leave it, were I called to treat a similar case again, notwithstanding its very suspicious character and that of the fluid which oozed from it.—*November 28, 1866.*

CLINICAL RECORDS.

Successful Operation for Vesico-Vaginal Fistula. By R. BOYLE TRAVERS, M.R.C.S., Eng.; Med. Off. Aghada Dispensary.

Two years ago, M. B., residing at Aghada, had a tedious labour (her first), during which the funis was prolapsed and pulseless. I perforated

the head, and delivered with the crotchet. She made a speedy recovery. Four months ago she gave birth to a second child, which was born dead, without instrumental aid, after a tedious labour like the former. Soon after she found she could not retain her urine, and applied to me for relief. I found her urine constantly dribbling away, in every position but when she lay on her face; and then she could retain it for a short time. She suffers much from excoriation of the labia and thighs; and her inner garments, rotten and saturated with the rapidly decomposing urine, give out a most offensive smell.

On introducing a silver catheter into the bladder, and passing the fore finger along the line of the instrument, I discovered an opening of considerable size in the vesico-vaginal partition, the finger coming into contact with the catheter at this point. In a subsequent examination, having placed the patient on her knees and elbows on a table, opposite strong solar light, I introduced Dr. Marion Sims' duck-bill speculum, by which a flood of light was thrown down on the whole anterior wall of the vagina, and the fistulous opening in the bladder was fully exposed. It was rather high up, and its long axis transverse, and readily admitted the fore finger to pass into the bladder. I explained to the poor sufferer the nature of the injury, and the means necessary for her relief, to which she readily assented. Having waited for a week after a menstrual period, with the assistance of a medical friend I proceeded to perform Bozeman and Sims' operation as follows:—

Having placed the patient on her knees and elbows upon a table opposite a good light, I introduced the duck-bill speculum, and fully exposed the fistula. With a fine, long-shafted hook I caught up a pyramidal portion of the mucous membrane of the lower lip of the opening, and transfixing its base with the straight spear-shaped knife, so as to split the edge, I removed an elliptical portion of mucous membrane from the lips of the fistula. This stage of the operation was difficult, and required time and patience, from the depth at which the parts lay, and the bleeding which obscured the view; but it was much facilitated by constantly using a long-handled little sponge-mop soaked in a strong infusion of matico for suppressing the hemorrhage, as recommended by Dr. Churchill, of Dublin.

I now passed Simpson's tubular needle deeply into the lower lip, about one-fourth of an inch outside the raw edge, and pushed it onwards through the yielding upper lip, using Bozeman's blunt hook as a point of support.

The iron wire was now passed through the needle, and seizing it with a long forceps, as it emerged from the tube, with the help of Bozeman's little fork I readily drew it down, without tearing the parts through which it passed, the wire gliding through, and supported by the jaws of the fork, as a rope runs over the groove of a pulley.

Having introduced all the sutures I adjusted the lips of the fistula, partly with my fingers and partly with Bozeman's fork. I then carefully separated each row of wires, and passed their ends through a small oval plate of sheet lead, pierced with two rows of holes, the upper set of wires passing through the upper row, the lower through the lower row; then holding all the wires in my left hand and drawing them tight, I pushed the leaden shield close up to the fistula. Then running the suture twister along each pair of wires up to the shield, I secured them with two or three twists, cut off the ends above the twister, pressed down the projecting points with my forefinger, and the operation was complete, having occupied nearly two hours.

I now introduced Sims' sigmoid catheter, and directed that one grain of opium should be given every six or eight hours. The catheter to be cleared occasionally by running a fine wire through it.

April 26.—No hemorrhage has taken place. Urine trickles freely through the catheter, which I took out, cleaned, and re-introduced. The opium to be continued; the vagina to be washed out with tepid water.

April 27.—On visiting this day I found that she had removed the catheter; that it had been out of the bladder for eighteen hours, and that she had passed water two or three times *pleno sivo* through the urethra. I re-introduced the catheter, and directed that the opium should be continued.

May 2.—Urine flows constantly through the catheter; none has escaped per vaginam since the operation. As the bowels had not acted for eight days I now gave a common purgative draught, which acted well.

May 8.—On this day—the thirteenth since the operation—I carefully introduced the speculum and cut the wires above the twist. The shield and wires were then easily removed by gently raising the shield with a forceps.

I was much gratified to find that perfect union had taken place in the whole extent of the fistula.

She continued to wear the catheter for a few days longer, when I removed it altogether, desiring her to pass her water every three or four hours for a few days.

May 20.—She has now perfectly recovered, and the bladder has regained its full power and functions.

Perhaps no condition is more melancholy or more loudly appeals to the resources of our art than that of the wretched sufferer from perforation of the vesico-vaginal septum, whether it be caused by the use of instruments, or as the sequel of difficult or powerless labour, as in the above case. Hitherto this sad condition has been irremediable, and regarded as one of the opprobria of surgery; but the recent labours of

Dr. Bozeman, of Alabama, Dr. Merion Sims, of New York, and especially Sir James Simpson, of Edinburgh, have been crowned with success. The silver-wire suture, duck-bill speculum, and catheter of Sims; the button-shield and various subsidiary implements of Bozeman; and the tubular needle, iron wire suture, and splint of Simpson, having now rendered the operation almost as successful as that for hare-lip.

LONDONDERRY CITY AND COUNTY INFIRMARY, AND CITY FEVER HOSPITAL.

REPORT FOR THE YEAR 1866.

By T. H. BABINGTON, M.D., T.C.D., M.R.I.A., *Surgeon to the Infirmary.*

Numerical Return of Patients Admitted into and Treated in the City and County of Londonderry Infirmary for the Year 1866.

Patients Remaining 31st December, 1865,	39
Admitted,	551—Total, 590
Discharged Cured and Relieved,	486
" Died,	35
" Irregular,	7
" at own desire,	16—Total, 554
Remaining 1st January, 1867,	36
Total number of Days, 16,019.	

City Fever Hospital Report for 1866.

Patients Remaining 31st December, 1865,	17
Admitted,	203—Total, 220
Discharged Cured,	176
Died,	21—Total, 197
Remaining 1st January, 1867,	23
Total number of Days, 6,137.	

Number of beds in hospital,	Males, 48 ; Females, 24—Total, 72
Number of Beds in Fever Hospital,	32
Total number of days passed by Patients in Hospital,	16,019
" " " in Fever Hospital,	6,137

Average Cost of Hospital and Fever Patients, including all expenses,	£2 7 0 $\frac{3}{4}$
Average Cost of Hospital and Fever Patients, exclusive of Salaries and Wages, amounting to £545 6s. 4d.,	1 13 7
Daily Cost of each Patient, including all expenses,	0 1 8 $\frac{1}{2}$
Daily Cost of each Patient, exclusive of Salaries and Wages, amounting to £545 6s. 4d.,	0 1 2 $\frac{1}{2}$

Numerical Abstract of Cases of Accidents, Diseases, and Deaths, for the Year 1866.

ACCIDENTS.		No.	ACCIDENTS.		No.
Burns and Scalds,		7	Fracture of Leg,		6
Bite of Monkey,		1	" Compound of Leg,		1
Bite of Dog,		2	" Patella,		1
Dislocation of Hip,		1	" Upper Jaw,		1
" Elbow,		1	" Ribs,		1
" Shoulder,		4	" Thigh,		2
Fracture of Acetabulum,		1	Injuries of Head,		12
" Clavicle,		3	Wounds, Contusions, and General		
" Humerus,		1	Injuries,		67
" Compound of Humerus,		1			
DISEASES.		No.	DISEASES.		No.
Abscess,		9	Dropsy,		11
Anemia,		6	Erysipelas,		5
Aneurism,		1	Epistaxis,		1
Cancer of Breast,		5	Elephantiasis,		1
" Lip,		4	Excessive Intoxication,		1
" Tongue,		1	Hernia,		10
Diseases of Brain and Nervous			Hemorrhoids,		5
System,		16	Hydrocele,		4
" Bones and Joints,		19	Paronychia,		8
" Eyes and Ear,		25	Purpura,		1
" Heart,		6	Rheumatism,		34
" Lungs,		80	Struma,		10
" Stomach and Liver,		58	Syphilis,		10
" Skin,		26	Tumours,		5
" Testicle,		3	Ulcers,		26
" Uterus,		4	General Debility and other Diseases,		29
" Urinary organs,		14	Fever,		203
<i>Diseases and Accidents which proved fatal.</i>					
		No.			No.
Accident,		1	Disease of Brain,		4
Bronchitis,		3	" Heart,		4
Diarrhea,		1	Morbus Addisonii,		1
Dropsy,		4	Phthisis,		8
Gangrene,		1	Peritonitis,		2
Hectic Fever,		3	Purpura,		1
Fever,		21	Syphilis,		2
<i>Operations.</i>					
		No.			No.
Amputations of Breast,		2	Removal of Cancerous Lip,		2
" Leg,		2	" Tumour from Shoulder,		1
" Thigh,		1			

BOOKS RECEIVED, AUGUST, 1867.

1. Clinical memoirs on the diseases of women. By M. Gustave Bernetz, physician to La Pitie, and M. Ernest Goupil, late physician to the Bureau Central. Vol. ii. Translated and edited by A. Meadows, M.D., New Sydenham Society. 1867. 8vo, pp. 270.
2. On the management of labour in contracted pelvis. An inaugural thesis for which a first prize was awarded by the Minister of Public Instruction of France. By W. H. Jones, M.D., M.R.C.S., Eng. Translated from the French. London: Hardwicke, 1867. 8vo, pp. 59.
3. On the electrolytic treatment of tumours and other surgical diseases; being a paper read before the Medical Society of London, on January 28, 1867. By J. Althaus, M.D., &c. London: Churchill. 1867. 8vo, pp. 31.
4. Ophthalmic review. No. 11.
5. On the repressive measures adopted in Paris compared with the uncontrolled prostitution of London and New York. By A. Vintras, M.D., physician to the French dispensary. London: Hardwicke. 1867. 8vo, pp. 86.
6. On the poisons of the spreading diseases, their nature and mode of distribution. By B. W. Richardson, M.A., M.D., &c. London: Churchill. 1867. 8vo, pp. 27.
7. A new process for preparing meat for weak stomachs. By W. Marcet, M.D., &c. London: Churchill. 1867. 8vo, pp. 27.
8. Observations on medical education. By J. Hughes Bennett, M.D., &c. Edinburgh: Black. 1867. 8vo, pp. 27.
9. The state of the medical profession further exemplified; an additional supplement to the "medical profession in Great Britain and Ireland." By Edwin Lee, M.D., &c. London: Johnson. 1867. 8vo, pp. 96.
10. On the function of the blood in muscular work. By C. W. Heaton. Reprint from Phil. Mag.
11. Supplement to Dr. E. Scoresby Jackson's "note book on materia medica," containing the alterations and new preparations introduced into the British pharmacopeia for 1867. By Angus Macdonald, M.D., &c. Edinburgh: Mac-lachlan and Stewart. 1867. Post 8vo, pp. 46.
12. On the treatment of consumption, with notices of successful and unsuccessful cases. By C. T. Thompson, M.D. 2nd ed. London: Hardwicke. 1867. 8vo, pp. 27.
13. Ninth report of the board of superintendence of the Dublin hospitals, with appendices. Dublin: Thom. 8vo, pp. 48.
14. The mixture book; or mixtures pharmacoepial, hospital, and magistral, their preparation, formulæ, doses, leading tests, and synonymes, including quack medicines. By A. J. Cooley. London: Hardwicke. 1867. Post 8vo, pp. 219.
15. On some of the conditions of molecular action. By A. Ransome, M.B. Reprint from Phil. Mag.
16. On the diseases of the lungs and air passages, their pathology, physical diagnosis, symptoms, and treatment. By H. W. Fuller, M.D. 2nd ed. Churchill. 1867. 8vo, pp. 534.
17. The irritable bladder, its causes and its curative treatment, including a practical view of urinary pathology and deposits. By Fred. Chas. Gant, F.R.C.S. 2nd ed. Partly re-written and enlarged. London: Churchill. 1867. Post 8vo, pp. 186.
18. On happiness in its relations to work and knowledge. By the late Sir John Forbes, M.D., F.R.S. 2nd ed. London: Hamilton and Adams. 1867. Fcap. 8vo, pp. 57.
19. Proceedings of pathological society of Philadelphia. Vol. ii. Philadelphia: Collins. 1867. 8vo, pp. 250.
20. De l'évidement sous périosté des os. Par M. Ch. Sédillot, ouvrage couronné par l'Institut de France. Deuxième édition. 1867. 1 vol. gr. in-8 de 438 pages, avec 6 planches comprenant 16 figures chromo-lithographiées. Paris: Bailliere et Fils.
21. Bade, ses eaux thermales, chlorurées, sodiques, et leurs vertus curatives. Par J. Seeligmaan. In-8 de 138 pages. Paris: Bailliere et Fils.
22. Nouveau dictionnaire de médecine et de chirurgie pratiques, illustré de figures intercalées dans le texte. Directeur de la rédaction: le docteur Jaccoud. Tome 6^{me}. Cab Chal. Paris: Bailliere et Fils. 1867. 8vo, pp. 831.
23. Recherches sur vitesse du cours du sang dans les artères du cheval au

moyen d'un nouvelle hemachromographè. Par M. L. Lortet. Paris: Bailliere et Fils. 1867. 4to, pp. 39.

24. Extracts from the records of the Boston society for medical improvement, with papers read before the society. By Chas. D. Hemans, M.D. Vol. v., No. 4. Boston. 1867. 8vo.

25. Syphilitic affections of the nervous system, and a case of symmetrical atrophy; with other contributions to the pathology of the spinal marrow. By Thos. Reade, M.B., T.C.D., L.R.C.S.I. London: Churchill. 1867. Post 8vo, pp. 111.

26. Leçons de Clinique chirurgicale professées a l'Hotel Dieu de Lyon. Par M. A. Desgranges, recueillies par MM. les docteurs S. Serullar et J. Christot. 1^{er} fascicule. I.—Tumeurs abdominales. II.—Corps étrangers du genou. III.—Tumeurs du sein. Paris. 1867. In-8o. de 108 pages. Chez. MM. J. B. Bailliere et Fils.

27. Recherches sur les altérations des artères à la suite de la ligature. Par M. Cocteau, docteur en médecine, prosecteur des hopitaux. Gr^d. in-8o. de 77 pages. Chez. MM. J. B. Bailliere et Fils.

28. Ophthalmatische beobachtungen. Von Dr. A. Mooren. Berlin. 1867. Hirschwald. 8vo, pp. 345.

29. Meteorological observations on the humidity of the air of Scarbro', with chapters on rain, rain gauges, and rainfall investigations; and on the humidity of the atmosphere in relation to disease. By C. B. Fox, M.D. London: Simpkin. 1867. Fcap. 8vo, pp. 41.

30. The American journal of dental science, June, 1897.

31. Cesarean section; recovery of mother, child not viable. By W. Newman, M.D. Stamford: Langley. 1866. 8vo, pp. 20.

32. Clinical lectures, illustrated by coloured photographs from life, on the diseases of the skin; being a cheaper and enlarged edition of the author's "coloured photographs of diseases of the skin." By Balmano Squire, M.B., &c. London: Churchill. Nos. 1 and 2.

33. Hospitals, infirmaries, and dispensaries, their construction, interior arrangement and management, with descriptions of existing institutions, and remarks on the present system of affording medical relief to the sick poor. By F. Oppert, M.D., &c. London: Churchill. 1867. Royal 8vo, pp. 218.

34. The elements of natural philosophy; or an introduction to the study of physical science. By Chas. Brooke, based on the

treatise by the late Golding Bird. 6th ed. and 3rd by present author, amended and greatly enlarged. London: Churchill, 1867. Fcap. 8vo, pp. 851.

35. Germinal matter, and the contact theory. By Jas. Morris, M.D. London: Churchill, 1867. 8vo, pp. 23.

36. Ninth annual report of the general board of commissioners in lunacy for Scotland. Edinburgh: 1866. Blue Book. 8vo, pp. 274.

37. The prescriber's companion. By A. Meadows, M.D. 2nd ed., much improved and enlarged. Renshaw, 1867. 32mo, pp. 231.

38. Introductory address, at the public opening of the medical session, 1866-67, in the University of Glasgow. By W. T. Gairdiner, M.D. Glasgow: Maclehose, 1867. 8vo, pp. 22.

39. Surgical observations, with cases and operations. By J. Mason-Warren, M.D. Boston: Ticknor & Fields, 1867. 8vo, pp. 630.

40. A biennial retrospect of medicine, surgery, and their allied sciences, 1865-6. Edited by Mr. H. Power, Dr. Anstie, Mr. Holmes, Mr. Thos. Windsor, Dr. Barns, and Dr. C. H. Fagge, for the New Sydenham Society. London, 1867. 8vo, pp. 525.

41. On the principles of æsthetic medicine, or the natural use of sensation and desire in the maintenance of health and the treatment of disease, as demonstrated by induction from the common facts of life. By Jos. Peel Catlow, M.R.C.S. London: Churchill, 1867. 8vo, pp. 325.

42. On pain and other symptoms connected with the disease called hysteria. By D. De B. Howell, F.R.C.S., Eng. London: Churchill, 1867. Cr. 8vo, pp. 44.

43. A manual for midwives and monthly nurses. By F. Churchill, M.D., &c. 2nd ed. Dublin: Fannin, 1867. Fcp. 8vo, pp. 177.

44. The diagnosis and treatment of the varieties of dyspepsia, considered in relation to the pathological origin of the different forms of indigestion. By Wilson Fox, M.D. London: MacMillan & Co., 1867. 8vo, pp. 243.

45. The spas of Belgium, Germany, Switzerland, France, and Italy; a handbook of the principal watering places on the Continent, descriptive of their nature and uses in the treatment of chronic diseases, especially gout, rheumatism, and dyspepsia; with notices of spa life and incidents in travel. By Thos M. Madden, M.R.I.A., L.K. & Q.C.P., &c. London: Newbery, 1867. Cr., 8vo, pp. 369.

46. Harvian Med. Society. Report of committee for the prevention of venereal diseases. Edited by C. R. Drysdale, M.D., and J. B. Curgenvin, Esq. London: Richards, 1867. 8vo, pp. 14.

47. Ununited fractures successfully treated, with remarks on the operation. By H. J. Bigelow, M.D., Prof. Surg., Howard University. Boston: Clapp and Son, 1867. 8vo, pp. 25.

48. Railway accidents or collisions: their effect on the nervous system. By Wm. Cramps, M.D. London: Lewis, 1867. 8vo, pp. 20.

49. An Essay on the ligature and management of the umbilical cord at childbirth. By A. F. King, M.D., &c. Washington: Moore, 1867. 8vo, pp. 37.

50. The threefold nature of health and disease, or first lines of neurodynamic medicine. By Ed. Haughton, M.D., &c. London: Churchill, 1866. Fep. 8vo, pp. 16.

51. Journal of cutaneous medicine. No. 2.

52. Pacific Medical and Surgical Journal. New Series. No. 1.

53. Traité expérimental et clinique de la régénération des os et de la production artificielle du tissu osseux. Par L. Ollier, Chirurgien en Chef de l'Hôtel Dieu de Lyon. Paris: Masson, 1867. 2 vols., 8vo, pp. 443, 531.

54. A paper on pythogenic or enteric fever, in which it is attempted to disprove its communicability or identity with typhus. By W. St. J. Coleman, L.R.C.P., &c. Reprint from Med. Press.

55. Ueber die Varietäten der Armarteriendes Menschen und ihre morphologische Bedeutung Inauguraldissertation.

Von A. Baader. Bern, 1866. Reeder and Simmen, 1866. 8vo, pp. 36.

56. Ueber die amyloide Degeneration insbesondere der Nieren, Inaug. diss. von Dr. A. Fehr. Bern: Reeder and Simmen, 1866. 8vo, pp. 164.

57. Lösung einer Pendel-Aufgabe. Von Prof. L. Schläfli. Bern: 1867.

58. Ankündigung der Vorlesungen der Universität. Bern, 1866.

59. Verzeichniss der Vorlesungen an der Hochschule in Bern, 1867.

60. Behandlung der Croupösen Pneumonie mit Veratrumpreparat. Inaug. diss. Von Dr. T. Kocher. Würzburg, 1866. 8vo, pp. 94.

61. Mittheilungen aus der Klinik. Von Herrn Prof. Musil über Anwendung des Plumbum aceticum in rheumatismus acutus. Inaug. diss. Von Dr. C. Imfeld. Stans, 1866.

62. Du laryngoscope et de son emploi dans les maladies de la gorge avec un appendice sur la rhinoscope. Par Morell Mackenzie, Traduit de l'Anglais sur la 2nd edition. Par le Dr. E. Nicolas. Paris: Baillière, 1867. 8vo, pp. 156.

63. De la laryngite chronique étudiée à l'aide du laryngoscope. Quelques mots sur la médication topique. Par le Dr. E. Nicolas, Marseille. 8vo, pp. 16.

64. On the medical and legal aspects of sanitary reform. By A. P. Stewart, M.D., and Ed. Jenkins, Barrister-at-law. London: Hardwicke. 1867. 8vo, pp. 100.

65. Question de priorité. Propriétés désinfectantes des permanganates alcalins. Par H. B. Condé. Paris: Baillière et Fils. 1867. 8vo, pp. 48.

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GREAT BRITAIN.

1. The British and Foreign Medico-Chirurgical Review. Churchill.
2. The Edinburgh Medical Journal. Oliver and Boyd.
3. The Retrospect of Medicine. Edited by W. Braithwaite. Simpkin and Co.
4. The Half-yearly Abstract of the Medical Sciences. Churchill.
5. Pharmaceutical Journal. Churchill.
6. The Lancet.
7. The Medical Times and Gazette. Churchill.
8. The British Medical Journal.
9. The Asylum Journal of Mental Science. Churchill.
10. The Glasgow Medical Journal. Mackenzie.
11. The Athenæum.
12. The Dublin Medical Press.
13. The Westminster Review. Trübner.

INDIA.

14. The Indian Vnnals of Medical Science. Calcutta: Lepage and Co.
15. Transactions of the Medical and Physical Society of Bombay.
16. The Madras Quarterly Journal of Medical Science. Madras: Gantz, Brothers.

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17. The Australian Medical Journal, Melbourne: Wilson and Mackinnon. London: H. Baillière.

AMERICA.

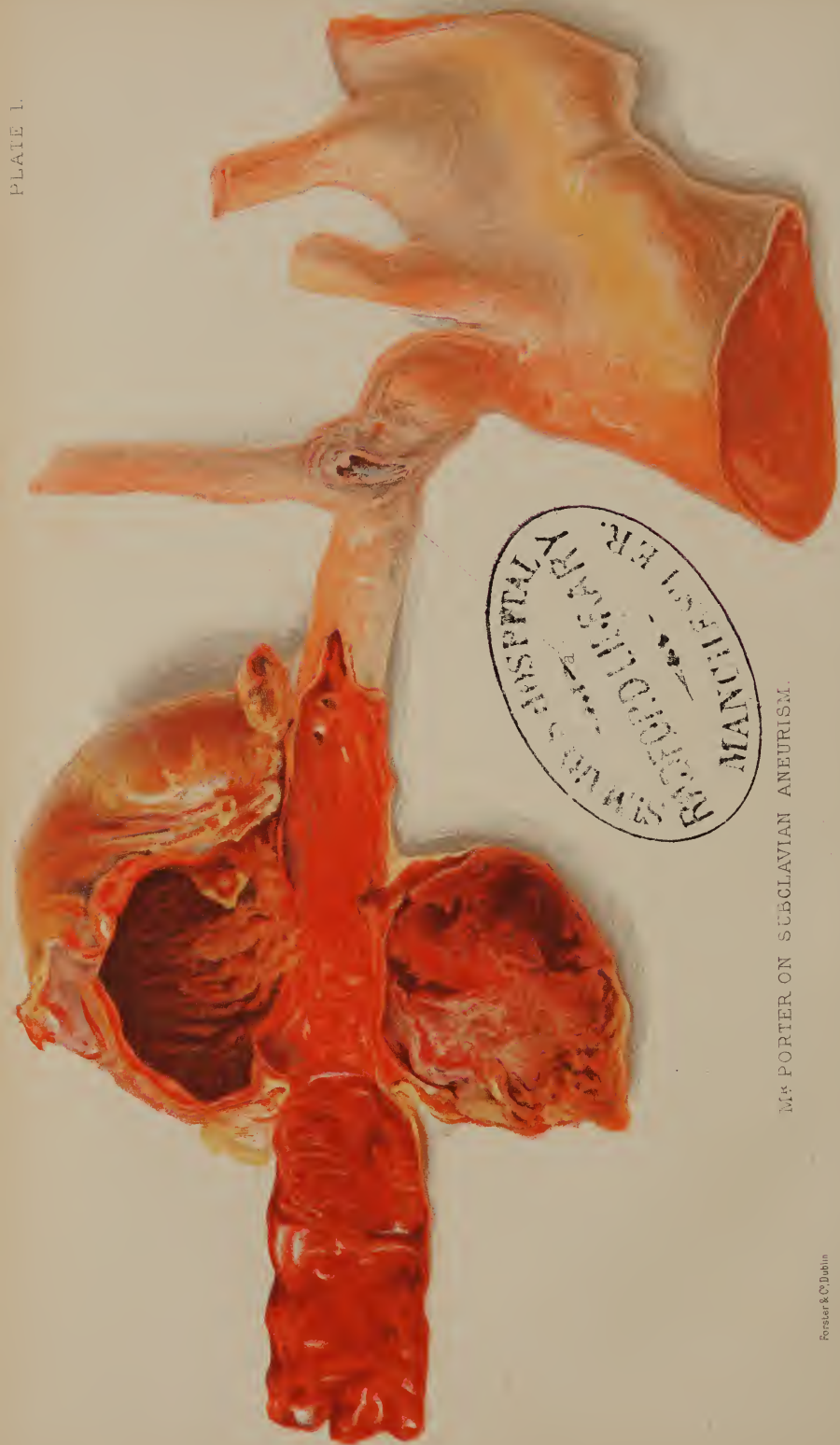
18. The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. Philadelphia: Blanchard and Lea.
19. The American Journal of Science and Arts. Conducted by Professors Silliman and B. Silliman, Jun., and J. D. Dana, &c. New Haven.
20. The American Journal of Insanity, Utica, N.Y. State Lunatic Asylum.
21. The Cincinnati Lancet and Observer. Cincinnati.
22. Canada Medical Journal. Montreal: Dawson, Brothers.
23. The New York Medical Journal. New York: Muller and Mathews.
24. The Philadelphia Medical and Surgical Reporter.

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25. The Richmond Medical Journal.
26. The Medical Record. New York: Wood & Co.

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28. Gazette Hebdomadaire de Médecine et de Chirurgie. Paris: Victor Masson.
29. Journal de Chimie Médicale, de Pharmacie, de Toxicologie, et Revue de nouvelles scientifiques, nationales et étrangères, &c. Paris: Labé.
30. Journal de Pharmacie et de Chimie, &c. Paris: Victor Masson.
31. L'Union Médicale. Paris.
32. La Lancette Française, Gazette des Hôpitaux civils et militaires. Paris.
33. Revue Médicale Française et étrangère. Publié par le Docteur Sales-Girons, Paris.
34. Archives Générales de Médecine Paris: Asselin.
35. Bulletin de l'Académie de Médecine Paris: Baillière.
36. Mémoires de l'Académie de Médecine.
37. Revue de Thérapeutique Médico-Chirurgicale. Paris: Dr. A. Martin-Lauzer.
38. Journal de Médecine et de Chirurgie Pratiques à l'Usage des Médecins. Par Lucas-Cham-pionnière. Paris.
39. Journal des Connaissances Médicales et Pharmaceutiques. Paris.
40. Annales Médico - Psychologiques. Par MM. Baillarger, Cerise, et Moreau. Paris: V. Masson.
41. Bulletin Général de Thérapeutique, Médicale et Chirurgicale. Par le Docteur Debout. Paris.
42. Répertoire de Pharmacie. Par M. le Dr. Bouchardat.
43. Gazette Médicale de Strasbourg.
44. Journal de Médecine de Bordeaux.
45. L'Union Médicale de la Gironde, Bordeaux.
46. Annales D'Hygiène Publique et de Médecine Légale. Paris.
47. Gazette Médicale de Lyon. Dirigée par le Dr. P. Diday.



MR PORTER ON SUBCLAVIAN ANEURISM.

THE
DUBLIN QUARTERLY JOURNAL
OF
MEDICAL SCIENCE.

NOVEMBER 1, 1867.

PART I.
ORIGINAL COMMUNICATIONS.

ART. X.—*Surgical Reports.* By GEORGE H. PORTER, M.D., Univ. Dub.; F.R.C.S.I.; Vice-President Royal College of Surgeons in Ireland; Senior Surgeon to the Meath Hospital and County of Dublin Infirmary; Surgeon to Simpson's Hospital; Consulting Surgeon to the Coombe Lying-in Hospital; Member of Council of the Surgical Society of Ireland, and of the Pathological Society of Dublin; Lecturer on Clinical Surgery.

A large Aneurism of the Right Sub-clavian Artery, treated by Acupressure on the first stage of the Axillary Artery, and, subsequently, by direct Pressure on the Arteria Innominata, unsuccessfully.

PERHAPS in the whole domain of surgery there cannot be presented to the practical surgeon any disease more fraught with anxious care than sub-clavian aneurism. The dilatation of a large vessel in such close proximity to the heart, and consequently receiving a current of blood every instant with the greatest force, is a grave and serious fact. The almost inevitable termination either from rupture externally, followed by a fearful gush, or from its giving way internally and so flooding the patient's chest with arterial blood, or tearing its

course through the wind-pipe, or œsophagus, is a pregnant and solemn consideration. Then again the almost hopeless prospect when treatment is viewed through the gloomy experience of the past, is suggestive of deep responsibility. Daring attempts have been made under such terrible circumstances to save human life, and bold as well as ingenious have been the devices which have been adopted to cope with this formidable form of disease. Let us hope that the time may yet arrive when the more enlarged resources of art and science, and a riper experience shall contribute to aid the surgeon in baffling one of the most fatal maladies. I deem it incumbent meanwhile on the operating surgeon to record unsuccessful cases, as well as those which may terminate favourably. Much may often be learned from an unsuccessful result, and the following case, I doubt not, will be perused with interest, and acknowledged to be of a nature deeply practical and important.

Patrick Galvin, aged forty-three years, a labourer, was sent to me by my friend, Mr. Richard Graham, of Clonmel, and admitted into the Meath Hospital, June 11th, 1867. He was a strong healthy looking man, and said he had never been sick a single day, until fourteen months previously, when he noticed a small tumour above his right collar-bone. This swelling gradually increased, and the following symptoms were present on his admission to the Hospital:—A pulsating tumour about the size of a duck-egg, was seen above the right clavicle. It rested inferiorly on this bone, and its long diameter passed from the edge of the sterno mastoid muscle outwards to the extent of three inches and a half towards the trapezius. In the perpendicular direction it measured two inches and one-eighth. It had a strong eccentric pulsation, but was at the same time very compressible. There was no pain in the tumour. The external jugular vein was much distended in the neck above, and half way over the aneurism. There was a loud *bruit de soufflet* audible in the tumour, and extended towards the arch of the aorta. The radial pulse was much weaker than that on the left side. He felt numbness and slight pain in his forearm and hand, chiefly along the inner edge. His right hand was always a little colder than the opposite one. At the upper, and inner part of the dilatation, one spot appeared much thinner than the remainder of the sac. The man was not aware of having ever met with any injury, but had always worked very hard. When the tumour first attracted his attention it was not larger than a small nut, and he could make it

disappear by pressure with his finger. He had been for six weeks in another hospital in this city, where pressure on the tumour had been tried, but without benefit. He also had a small aneurism of his right femoral artery just below Poupart's ligament. His muscular system was in a good condition on admission. He slept well, and had an excellent appetite. His spirits were not in the least depressed; but on the contrary his manner was cheerful, and hopeful. He was well aware of the serious nature of his malady, and entreated that if there was any chance of relief by an operation to give him that chance. With all the foregoing elements in the case it will be admitted that it was a most anxious, and most trying one. I had frequent consultations with my colleagues, to whom individually, and collectively, I tender my grateful thanks for the assistance they gave, and for the deep interest they manifested in the conduct of the case. Everything seemed unpromising. The serious complications of the second aneurism, and the probability of disease being present in the man's aorta rendered the case almost hopeless. Then again the idea of ligaturing a vessel at either the cardiac, or capillary side of the tumour, carried with it the dread of secondary hemorrhage. It occurred to me that this was a legitimate case, in which I might attempt the occlusion of the artery by acupressure at the distal side. Accordingly, with the sanction of my colleagues, I determined to lay bare the axillary artery in its first stage, place a needle under it, and bridge over the vessel with a loop of wire.

Operation.—June 26th, 1867, at 10 o'clock a.m. I had the patient brought into the operation theatre. He was placed on the table with his shoulders slightly raised, and a strong light falling on him from above. My valued colleague, Professor Macnamara, at my request, administered chloroform in the most efficient manner. His right arm was held from his side in order to put the great pectoral muscle on the stretch. Laying my scalpel over the junction of the great pectoral and trapezius muscles, I made an incision inwards to the extent of four inches, at a level of half an inch below the clavicle. With a few careful strokes of the knife I laid bare the fibres of the great pectoral. I then, at the inner extremity of the wound, cautiously cut through the muscle to the extent of half an inch. Thrusting in the point of my right forefinger I insinuated it outwards under the muscle until I came to the space marking its junction with the deltoid muscle, tearing through with my nail. Having withdrawn my finger along the trajet made by it, I passed

a broad director beneath the muscle, and when its extremity appeared on it I divided the muscle throughout the entire length of the first incision. A small artery required a ligature. The lips of the wound now separated a good deal, and were kept still more widely apart by means of a retractor. After tearing through some areolar tissue with a director, the edge of the pectoralis minor came into view, and, just above it, the acromial artery was seen, and felt so large, that at first I thought it was the axillary. The brachial plexus was distinctly visible above and outside, and merely the edge of the axillary vein could be distinguished on the inside of the artery. I now had the arm brought to the side, and after a little cautious scraping with the director, but more with the nail of my left forefinger, I brought the axillary artery into view, and insinuated an aneurism needle under it. I then took a silver probe with the little bulbous extremity taken off, and well rounded. I curved it slightly, and having withdrawn the needle, I attempted to pass the probe under the artery. Finding this rather difficult, I introduced it along the groove of a director bent almost to the curve of an aneurism needle, which I passed beneath the artery. I then placed a loop of silver wire on the extremity of the probe, and bridged it tightly across the artery, after the manner of Sir James Simpson's fourth mode of acupressure. I gave the wire three twists round the probe. This immediately obliterated the pulse at the wrist, whilst the aneurismal tumour diminished nearly one-half in size, and its pulsation was weaker. I placed the probe lying obliquely with its free extremity projecting at the internal angle of the incision. The edges of the wound I brought together with three points of silver wire suture, and a compress of lint, secured with adhesive plaster, kept the lips in apposition, and protected the probe from any rude or sudden shock. A flannel bandage was then applied from the hand to the axilla, his arm was kept to his side, and he was removed to bed. He was ordered an anodyne draught, and a small bladder of ice was in a short time afterwards placed on the tumour. In an hour after the operation he complained of a feeling of tightness in his forearm, and begged that his hand, which had been secured across his chest, might be liberated.

Two o'clock p.m.—The bandage confining his hand was removed, which gave him much relief. He had a little sleep since the operation, and was in good spirits. No change of temperature was noticed in the limb.

June 28th.—He passed a very good night. The radial pulse was

felt faintly. The tumour was reduced much in size; the pulsation was weaker, and the *bruit* in the aneurism was two-thirds shorter. The aortic *bruit* had almost disappeared. Half-past three o'clock, p.m., just fifty-three hours after its application, I removed the probe and wire, and not a drop of blood followed.

June 30.—The tumour continued in much the same condition, especially as to size. It was decidedly more firm, the pulsation being transmitted to the finger, evidently through a thicker stratum of fibrin. A small chamois bag containing shot was kept on the aneurism, alternately with a bladder of ice, and the wound was healing fast. The history of this case from day to day would be tedious. The tumour again appeared to enlarge, and the pulsation to grow as strong as at first. The only marked change being a greater amount of solidity. The wound was perfectly healed on the 17th of July, and the man was out and walking about the grounds of the hospital.

Here was a case abounding in difficulties. The disease was not cured. But still, although very much was not to be hoped for, owing to the free collateral circulation, the stoppage of the current of blood on the distal side was a perfectly warrantable procedure. The needle and wire were removed without damaging the artery, and secondary hemorrhage was thus avoided. His health had not suffered in the least by the operation, and as far as one could judge he was very much in the same condition as he had been before, and the disease was as likely to progress to a fatal termination. Deep was the anxiety with which the case was now regarded. Every circumstance connected with it I carefully weighed; and gave the most thoughtful consideration to his present condition and to future contingencies. Amputation at the shoulder joint; injection; galvano-puncture; manipulation; the introduction of numerous coils of fine wire, were all discussed, and laid aside. Now there only remained the chance of shutting off the circulation on the cardiac side. The ligature I made up my mind not to use, but the idea of acupressure, in some form, I felt disposed to adopt. Then the difficulty arose of diagnosing accurately the portion or stages of the subclavian artery actually invaded by the disease. It appeared on careful examination that the first stage of the artery was sound, and the *arteria innominata*, as well as I could judge, not enlarged. I had no former case of success to encourage me as far as dealing with the first stage of the subclavian was concerned, as all had been fatal with the ligature, and even to cut down upon it, and place a

needle under that portion of the artery, was an operation hazardous in itself. Sir William Fergusson, when speaking of deligation of the subclavian artery in its first stage, certainly condemns it. He says, "Taking into consideration the want of success attending this operation, it may well be deemed a serious question, whether it should again be attempted; for my own part I should do it with great reluctance." Liston was also unfavourable to it. He says, "There is little chance of coagulum forming on either side of the obliteration caused by the ligature." Having, however, carefully and anxiously weighed every feature in the case, and having been aided by the kind counsel of my colleagues, I determined to lay bare the arteria innominata, and if I found it not diseased, to give the man the chance of stopping the current of blood in it by temporary pressure, and thus allowing time for a possible coagulation to take place in the aneurism; but if, on the other hand, I found it in a diseased condition, to close the wound, as had been done by my father, Aston Key, Post, and Hoffman. I was also encouraged to deal with the innominata instead of the first stage of the subclavian by the fact that a case of successful deligation of this vessel was performed by A. W. Smyth, of New Orleans, in May, 1864. Then again Guthrie (no mean authority) in his work on *The Diseases and Injuries of Arteries*, when speaking of the cases in which Mott and Graefe had tied the arteria innominata, says, "It is evident from these last cases, that a man may live so long after the operation as to show that he does not die from the immediate effects of it, or from any that must necessarily take place; and it is, therefore, probable, that if the operation be repeated it will ultimately be successful, although it must always be exceedingly hazardous." Liston also, when comparing the operation of tying the first stage of the subclavian and innominata, in the following language prefers the latter:—"If aneurism of the right subclavian is so situated or so large as to render impracticable the application of a ligature outside of the anterior scalenus, then it will be a safer and a better practice to deligate the anonyma than to attempt the ligature of the subclavian close to its origin, and amidst the numerous branches given off from it." To add another authority which helped me to decide upon placing pressure on the arteria innominata, I may quote the following passage from Simon's able article "Neck," in Todd's *Cyclopædia of Anatomy and Physiology*. Referring to the arteria innominata, he says:—"This artery has now been tied for the cure of aneurism at least six times; unsuccessfully, it is true, but with such nearness of success

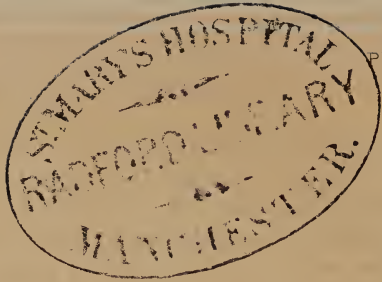


Fig 1.



Fig II.



Fig III.



as not to forbid cautious repetition." The great want of success with others was not sufficient to deter me. Surely the fact that there never was a successful case of this operation should not prevent the surgeon from attempting to save, or prolong life. The experience of other great operations, which were apparently hopeless, gave some encouragement. Having determined to operate, the next question of importance was to select the mode of pressing the artery. I felt that it would be impossible to pass an acupressure needle under the arteria innominata, which is placed so deeply and behind the sternum; but it occurred to me that the instrument suggested by Dr. L'Estrange, and described by him in the *Dublin Medical Press* for June 7th, 1865, would accomplish the object I had in view. I have given a drawing of it, Plate II. It resembles an ordinary aneurism needle without an eye, and having a movable handle, Figure I., A. After the artery is denuded this can be passed beneath the vessel like any other aneurism needle. When fairly in its proper position, the handle is removed and the second blade, Figure II., B, is made to slide down on the artery somewhat in the manner of a lithotrite, and then the screw-nut, Figure II., C., is put on the shaft of the needle, and by it the blades of the instrument can be approximated to the desired extent. Figure III. shows the compressor as it lies in the wound on the artery.

The Operation.—July 31st, at ten o'clock, a.m., the patient was placed on the table in the operation theatre. His shoulders were raised about eight inches, and his head thrown well back. A strong top light fell upon him. Professor Macnamara administered chloroform, as he had kindly done for me at the former operation. Standing on the right of the patient, I laid my scalpel on the anterior edge of the sterno-mastoid muscle of the right side two inches above the sternum, and carried my incision to the centre point of this bone. I then placed the point of my knife on the clavicle at a distance of two inches from the inferior extremity of the first, and cut inwards to meet the former incision at an acute angle over the middle of the sternum. Just as I joined the two incisions a small artery bled smartly, but was immediately secured by my assistants. The triangular flap of skin and platysma enclosed by the incisions, I now carefully dissected up, raising it with great caution where it lay over the internal portion of the aneurismal tumour. I then, with a director, scraped through the sternal origin of the right sterno-mastoid muscle, or rather between the origins of both right and left muscles, and pushed the director outwards under

the sternal and clavicular portions, which I divided on it, as it was kept tightly against the back of the muscle. One of my colleagues now held the divided muscle out of my way. Some areolar tissue came into view, which I cautiously pushed to either side with the handle of my scalpel. I now came down on a strong fascia, which I pinched up with a forceps, and scraped through with the director, which I insinuated beneath, and slit the fascia on it to the full extent of the incision along the collar bone. Another small vessel now sprang, but was tied quickly, the wound having been well sponged out. I then passed a director under the sternohyoid and sternothyroid muscles, and divided them. Some veins were thus exposed, but were kept out of danger. I now scratched through the inner side of the sheath of the carotid artery, which I felt beating strongly under my finger. I was now working in a deep cavity, and low behind the sternum. At this stage of the operation my colleague, Mr. Wm. Stokes, aided me greatly by throwing a strong reflected light, with the mirror of an ophthalmoscope, into the wound. Carefully tearing with the nail of my left fore finger, and occasionally using the director, I traced along the carotid, and brought the innominate into view. The left vena innominate was full, and bulged up in my way, but it was held down cautiously with a small silver retractor. I now altogether used my nail, and cleared the vessel from the trachea; this I found much more easy than isolating it on the outer side—in fact, this part of the operation I did altogether without seeing it, I was so far down behind the sternum. Having safely laid bare the artery, I attempted to pass L'Estrange's needle under it from without inwards, keeping its point close to the vessel, but I found I could not depress the instrument, as it hitched on the sternum and end of the clavicle. I now changed my position from the side of the patient, and stood above his head, which I had thrown more back, thus bringing the artery higher. I now found that I had considerably more power over the instrument, and I passed it slowly and carefully round the vessel. I then removed the handle, and passed down the second part of the instrument on the artery, and screwed it slowly home by means of the little nut. The pulsation in the tumour became weaker and weaker as the blades were approximating, and at last ceased when they were brought closely together. The aneurism reduced very much in size. The patient bore the operation well, and did not suffer the least inconvenience from shutting off the current of blood from that side of his head. The edges of the wound were brought

together with four points of wire suture, and a pledget of wet lint was laid upon it. The instrument stood out at the junction of the two incisions. The man wanted to be allowed to walk to his ward, but, of course, was not permitted. He was placed in bed, and a small bag of ice was put on the tumour. The operation occupied forty minutes from its commencement to the passing of the needle beneath the vessel, the first time, I believe, that such a procedure was ever accomplished on the living subject in Ireland. I must pause here to express my admiration of the manner in which, for nearly an hour, the poor patient was kept safely in a state of anaesthesia. This man was known to have a second aneurism; disease of the arch of his aorta was suspected; there were proofs enough consequently of derangement of his arterial system; and with all these unfavourable circumstances, he was safely carried through the operation in a state of anesthetic sleep. In an operation requiring time, and careful dissection in the midst of large vessels, it was all-important to have the state of insensibility complete; and this case verified, in the amplest manner, the statement of Professor Macnamara, in his valuable work on "Medicines, their Uses and Modes of Administration." He says in the article on chloroform:—"The debilitated and weak, either in consequence of age or disease, bear its administration better than the robust, whilst, so far as disease is concerned, my experience agrees with that of Snow, that no matter whether it be disease of the brain, lung, or heart, if its administration be required by the emergency of an operation, a fatal result is less likely to follow its administration, than from the shock under such circumstances of a capital operation when the patient is not under its influence."

12.30 p.m.—He complained of pain in the dorsal region of his spine, which was relieved by placing a small cushion under it. He also felt pain in swallowing, and said there was a "great catch" where the instrument lay. His breathing was perfectly free. His pulse 84, and the *bruit* had disappeared from the tumour.

3 p.m.—A slight pulsation was felt in the aneurism. Bladders of ice were kept constantly applied to the tumour.

August 1st.—He slept several hours during the night. He still complained of pain when he swallowed. The tumour was harder and smaller, but still had a decided pulsation. One p.m.—I screwed the instrument tighter, which arrested the pulsation. 10 p.m.—Pulsation had returned.

August 2nd.—Slept six hours without being disturbed. Still

complained of pain in swallowing. His spirits were excellent. The wound looked most healthy. Tumour pulsating. Small bladders of shot and ice were placed occasionally on the tumour. Appetite good. 9.30 p.m.—The instrument was removed; the blades having been separated, it was easily turned out of the wound. Not a drop of blood followed, but the pulsation returned immediately to the same extent as before the operation. The tumour was certainly more firm, but resumed its former size. The pain in swallowing ceased almost immediately. The ice and shot were kept to the swelling. He was ordered a mixture containing acetate of lead in large doses.

August 4th.—No change in symptoms, and it would be tedious to relate his daily condition.

August 9th.—The wound is healing in a most healthy manner. The tumour in the same state. He has become restless, and when the nurse left the ward he got out of bed, and went to the water closet. 9.30 p.m.—The patient sat up in his bed, when a gush of arterial blood burst from the wound. The resident pupils were with him almost immediately, but they found that he had lost a large quantity of blood. They instantly plugged the wound with sponge, and sent for me. I saw him a few minutes before ten o'clock. The bleeding was perfectly arrested when I arrived. I merely, with the assistance of my colleague, Mr. Wharton, added to the size of the sponge compresses, and fastened all on with adhesive plaster and bandages. Ice was kept over the tumour, and the upper part of his chest. He was ordered a full opiate.

August 10th.—Slight returns of the hemorrhage occurred during the day, but were easily restrained. 8.30 p.m.—A violent gush of bleeding took place, sweeping away all the plugging, and he expired immediately.

Post-mortem examination.—Fourteen hours after death. His chest was carefully opened, and the apex of the right pleural cavity was found to be perfectly healthy. His lungs were also in a normal condition. His heart was somewhat large, and felt a little softer than was natural. The arch of the aorta was larger, but not dilated into any aneurismal pouch. A few atheromatous specks were visible on its lining membrane. A portion of the arch, together with the origin of the vessels from it, was removed; as also the right sub-clavian artery, together with the aneurism, and a portion of the axillary artery. The drawing, Plate I., fairly represents the parts concerned. A little sloughy aperture *a*, just below the bifurcation

into right carotid and right subclavian, marks the source of the fatal hemorrhage. In the tumour some layers of fibrin were observable. At the point where the acupressure was applied to the axillary artery the vessel was not completely occluded, but narrowed. The head and abdomen were not opened. From the examination of the parts, I arrived at the following conclusions:—Firstly, that the return of the pulsation in the tumour arose from the slipping of the artery from the jaws of the compressor, forming in consequence a small channel through the vessel beyond the extremities of the blades. Secondly, that by screwing the instrument tightly to arrest the current of blood, I made undue pressure on the anterior portion of the artery, and thus produced the slough. Thirdly, that an artery may be *acupressed* for several hours with perfect safety. Fourthly, that the blades of the compressor were too short, and not sufficiently curved for a vessel of this size. As to the compressor, I am convinced that it is really a good instrument, devised on a good principle, and I believe it will ultimately succeed in curing aneurism. If no slipping of the artery take place, a very slight amount of pressure is sufficient to arrest the current of blood; and I believe if I had merely passed an ordinary aneurism needle under the artery, and looped over the vessel with a piece of wire, the result would have been favourable. I cannot conclude without expressing my best thanks to my apprentice, Mr. E. J. Cooke, and the resident pupils of the hospital, Messrs. Lough and Crosslè, for the unwearied attention and assiduity they bestowed on the poor sufferer.

ART. XI.—*Reports of Hospital Cases:—On a Case of Injury of the Spine in the Cervical Region.* By WILLIAM MAC CORMAC, M.A., M.D.; Fellow of the Royal College of Surgeons, Ireland; Surgeon to the Belfast General Hospital.

THE great divergency of opinion subsisting amongst surgeons as to the propriety of trephining the spine in cases of injury induces me to make known the history of the following fatal case of fracture of the spine. I believe that the conclusions which the *post-mortem* examination suggests show that, in this instance at least, an operation could not either have prolonged or preserved life.

Although, no doubt, it must prove much more gratifying to record some successful surgical achievement, nevertheless, unsuccessful cases frequently yield an amount of instruction, and present features of interest, which successful ones do not and cannot always possess. No sense of false shame, therefore, should prevent surgeons from making public the unsuccessful issues of their efforts when they occur, at least as frequently as they do those that are successful.

Robert Crawford, a fine healthy looking young man, thirty years of age, was admitted to hospital under my care on the evening of the 15th August.

My colleague Dr. Browne happened to be present at the time. He found Crawford in a state of complete intoxication and unable to give any account of himself. It was consequently impossible to discover the nature or amount of the injury which the patient had sustained. Nor was it possible, at the time, otherwise to ascertain satisfactorily the particulars of the accident. The police who brought Crawford to hospital had not witnessed the occurrence, and as for the sufferer himself, being drunk, he could tell nothing about it. It subsequently appeared, however, that Crawford was sitting on two barrels which were placed in the cart he was driving, and that he fell sideways off these, turning a sort of summersault in the air, alighting on the ground on his back, clear of the wheel which, it is stated, did not pass over his neck.

When I visited my patient and inquired where he was hurt, he merely replied that he was bruised and sore, and stiff about the neck. I believed I had but to deal with a simple case of contusion, drunken men being rarely badly hurt. I was much surprised, however, on turning down the bedclothes, to find no trace of external injury whatever, but instead thereof a prominent swelling in the hypogastrium, and the penis in a state of priapism. The patient then informed me, in reply to my question, that he had made no water since he was hurt. This circumstance, along with the priapism, immediately aroused my suspicions, and I ascertained that the man was all but completely paralysed. The distended bladder, which reached nearly as high as the umbilicus, was at once emptied, the introduction of the catheter being attended with considerable difficulty on account of the erect condition of the penis, which was complete and persistent.

On examining the lower extremities, they were found wholly deprived of the power of motion, and absolutely without sensation. The trunk, also, as far up as the level of the fourth rib was in a

similar condition, and it was possible to trace out a sharp line of demarcation, as regards sensibility, by pricking the chest with a pin. The arms, too, were partially paralysed, the left slightly more so than the right. Along the ulnar border of each forearm the amount of sensation was much impaired, whilst on the radial side it seemed normal. Every attempt to excite reflex movements of the lower limbs proved unsuccessful, or was only responded to by a faint motion of the great toes. In fact the inferior extremities might almost literally be described as dead. The respiration was slow and laboured, and chiefly, if not entirely, diaphragmatic. The pulse was regular. But what seemed to me most extraordinary was the complete unconsciousness, on the part of the unfortunate man, of the great injury which he had sustained. His intelligence otherwise was unimpaired, and yet he made no complaint save that he felt a little sore. He was quite unaware that more than half his body might be said not to belong to him, and was with difficulty made to understand that he had met with a very serious accident.

Of course such symptoms as those described pointed clearly enough to an injury of the cord pretty high up. But when I endeavoured to localize the seat of the lesion, by an external examination, my difficulties began. The dorsal vertebræ showed no sign of displacement, nor were they tender on pressure, except the first, which during life was mistaken for the *vertebra prominens*. Immediately above the first dorsal vertebra was felt a slight depression, so slight, however, as to make one feel uncertain about its reality, as the patient was a very muscular man with a short neck. At this point excessive pain, stretching down the arms, was excited by pressure, and in the region of the fifth and sixth vertebræ there was also excessive tenderness. Every attempt at examining the spine occasioned much distress, and whenever the head had to be moved the patient grasped it with both hands in order the better to support it. It was therefore felt undesirable to subject the poor man to more frequent or lengthened examinations than were absolutely necessary.

Under such circumstances an exact diagnosis was necessarily somewhat difficult. I believed, however, that it was most probable that in the region where the pain on pressure was most acutely felt, there was fracture with compression of the cord. The position of the fracture at the time appeared to be about the sixth cervical vertebra, but on examination after death it proved

to be the seventh. What I was unable at the time satisfactorily to solve, was whether or not the injury was limited to one vertebra, or extended over two or more, an important element for consideration both as regarded the prognosis and treatment of the case.

In most respects the symptoms resembled those of similar cases. The urine, as early as the fourth day, became ammoniacal, and was afterwards excessively fetid. At first there was complete retention, but subsequently both urine and feces, the former often largely mixed with blood, came away involuntarily. In the earlier stages of the case there were no general symptoms of very great urgency. The appetite was unimpaired, the patient slept well, and complained of nothing. On the sixth day, however, vomiting set in, accompanied by flatulent distention of the stomach and bowels, and troublesome cough, with difficult expectoration. For a week the paralysis remained unchanged in amount, but then the power of grasping with the hands became feebler, and the patient complained of pain stretching down the ulnar border of each forearm. In the lower limbs there was no change, as they were absolutely bereft of power and sensation from the first. The face, or cheeks rather, now became much flushed, and remained so—a fact which has been explained by the occurrence of partial paralysis of the sympathetic. Nothing remarkable was observed with respect to the temperature. In the axilla, a clinical thermometer registered the temperature at $101^{\circ}\frac{4}{5}$ Fahrenheit, and between the thighs at $100^{\circ}\frac{4}{5}$, one degree less in the paralysed than in the only partially paralysed parts. The man, too, was now becoming decidedly weaker.

It was at this period, a week after the accident, that I took into consideration the propriety of trephining the spine, an operation ably advocated in the pages of this Journal by Dr. Robert M'Donnell. I was, nevertheless, dissuaded from doing so, partly because the experience of my colleagues rendered them opposed to the practice, partly because the nature of the symptoms led me to suspect a serious lesion of the cord, but chiefly on account of the difficulty of attaining to anything like certain knowledge of the exact nature and amount of injury that had been sustained.

It cannot now be a matter of much regret, when the result of the *post-mortem* examination is apparent, that I did not adopt the more active mode of treatment. But, if only for this reason, as also because this history supplements, in a certain measure, some of the facts and observations adduced by Dr. M'Donnell in his admirable and exhaustive papers, I thought it not undesirable, in the present

somewhat divided state of surgical opinion on the subject, to bring forward an account of this case.

Crawford lingered for an unusual time. Death did not take place until the fourteenth day after the accident. His progress downwards was very gradual. What troubled him most was the accumulation of mucus in the chest which he could not expectorate. The intelligence remained unclouded to the last. It was observable that during the three last days of life the pulse fell each day some five beats in frequency. The treatment really consisted in simply doing nothing.

Seventeen hours after death the *post-mortem* examination was made by myself in the presence of the hospital pupils. In the first instance, I went through the steps of the operation which I would have performed had I interfered surgically during life. An incision having been practised, four inches in length, over the lower cervical vertebræ and the first dorsal, I was, I must confess, surprised at the facility with which the spine was exposed. In the centre of the wound I felt the spinous process of what turned out to be the seventh cervical vertebra, loose and depressed beneath the general surface for fully two lines breadth. Before taking away this fractured portion, which could have been very readily done, I preferred removing the entire spine, or a considerable portion of it, in order that the parts might be preserved in exact relationship, and examined at leisure. Before doing so, however, I ascertained by passing my hand along the front of the spine that the anterior common ligament was uninjured, and that there was neither inequality nor displacement of the bodies of the vertebræ in that situation. The spinal column, with a portion of the ribs attached, was now carefully taken out as low as the middle of the dorsal region. The fractured spinous process was then seen to have been thrust into the intervertebral opening between the seventh cervical and first dorsal vertebræ, as represented in Fig. 1. It was more deeply driven in on the left than on the right side, and the tip of the spine was depressed, and rested upon the process underneath. As might almost be imagined from the wedge-shaped form of the fragment, the spinal marrow had been compressed, and, as a further examination disclosed, almost to complete division. The poor man was in fact "pithed," nearly as effectually as when the bull is stricken by the matador in the arena.

The fractured spinous process having been removed, the dura mater was seen occupying the exposed space, and apparently quite

uninjured. It betrayed nothing as to the vitally altered condition of the medulla underneath. The vertebral arches, excepting the injured one, were now sawn through and removed. Above the seat of injury the cord seemed entirely normal. Below, indeed, it appeared smaller than was natural, and the veins were slightly congested. Above and below the injured point, where a distinct sulcus could be detected, some lymph and a small clot had formed, which are shown in Fig. 3. The cord and its membranes were now carefully removed, and the latter dissected off in front, when it was ascertained that the medulla was lacerated, but no marked inflammatory softening was detected, nor were there any signs of meningitis. I had now an opportunity of again examining the spinal column, and there was not the smallest displacement of the bodies either in front or behind, but the intervertebral substance between the last cervical and the first dorsal vertebræ was much torn, and there was preternatural mobility between these two bones.

Professor Redfern was good enough to examine the cord for me after it had been a few days in spirit. He divided the dura mater posteriorly, and made the longitudinal section which is faithfully represented in Fig. 3. He wrote to me to say that "further examination has added to the certainty that the structure of the cord is entirely destroyed at the injured spot. Inflammatory changes occur within that spot, but I have failed to trace them any distance along the cord either upwards or downwards. I repeat what I said yesterday, that, in my opinion; an operation would have made this case worse."

On examining the longitudinal section made from before backwards by Professor Redfern, the crushed portion of the cord is seen to be injured beyond all possibility of repair. A few filaments, as it were, alone connect the upper and lower tracts of the medulla.

The rest of the body, upon inspection, displayed nothing of particular importance. The head was not opened; but the dependent portions of the lungs were almost solidified, owing to hypostatic congestion.

The woodcuts with which these observations have been illustrated are very accurately drawn of the actual size. Fig 1. is a side view of the spine, representing the degree to which the broken fragment was driven in. Fig. 2. represents this fragment separate, and Fig. 3. represents the longitudinal section of the medulla, and shows very faithfully the extent to which the cord has been divided.

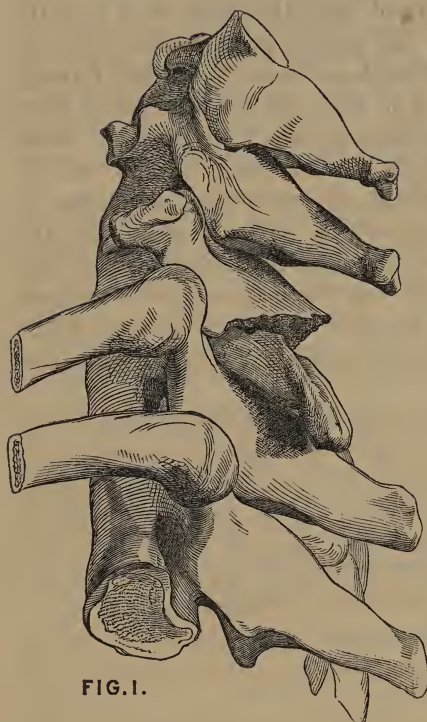


FIG. 1.

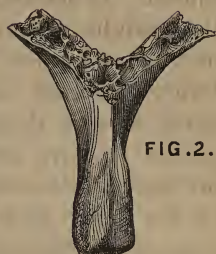


FIG. 2.

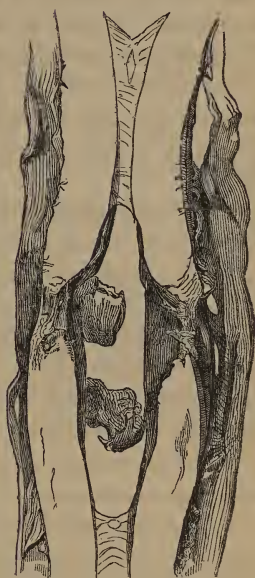


FIG. 3.

The history of this case presents, I think, several points of practical moment. In the first place, although the vertebral arch remained entire, and only a small portion of the laminae of the vertebra was detached with the spinous process, and there was no displacement by fracture or otherwise of the bodies, the nervous matter of the cord was damaged beyond all possibility of repair. An operation in this case, otherwise apparently well suited for it, must have completely failed, and there would have been nothing

during the course of the operation to indicate any cause for failure. The length of time the patient lived, after so severe an injury to the cord in the cervical region, and the very trifling inflammatory changes resulting, whether in the cord itself or in its membranes, are certainly uncommon. The almost total absence of reflex motion in a case of such complete division of the medulla was also very unusual, and there was nothing discovered which could in any way account for its non-existence. In this instance, at all events, it could only have led to disappointment, had this circumstance been looked upon as, in itself, yielding a motive for operation, as Dr. M'Donnell seems to consider it.

In conclusion, the tendency of this case, I conceive, is only the more strongly to show that even comparatively slight injuries of the bony case may be accompanied by total destruction of the important organ it contains within. At the same time, I would by no means wish to lay down that an exploratory operation or examination, in cases of paralysis following injury of the spine, is uncalled for or unjustifiable. If it can be proved, and I think it has been, to a certain extent, proved, that in some of these cases surgical interference has been able to effect a permanent and striking amelioration, if not a perfect cure, and that an operation is not necessarily dangerous to life, then it is, I would say, perfectly legitimate to attempt by these means to give the patient that chance of life which, by the plan of simply letting him alone, he is all but certain to lose.

ART. XII.—*On Some of the Morbid Conditions of the Optic Nerve; as seen by means of the Ophthalmoscope.* By HENRY WILSON, F.R.C.S.; L.K. & Q.C.P.; Member of the Royal Irish Academy, &c., &c.

THE optic nerve is rarely the seat of primary and independent disease. It is, as a rule, secondarily affected in consequence of disease in the adjoining ocular structures, or of the brain, and is most frequently seen co-existing with disease of the retina. In the present paper I purpose confining my remarks to the optic nerve alone.

A number of *congenital peculiarities* of the optic nerve have been

recorded before the invention of the ophthalmoscope, such as fusion of the two nerves into one in cyclopia; in a case of complete absence of the right globe the left optic nerve was bifurcated, one branch normal, the other going to and terminating in the dura mater; in absence of the globe the optic nerve may be altogether absent, or only deficient from the optic commissure outwards; the optic commissure has been found wanting in microcephalus and hemicephalus, and also in otherwise normal heads and brains. The intra-cranial ends of the optic nerve have been found free and unattached to the brain, lying in the sella turcica; variations in the length and the diameter of the nerve have been recorded; in hydrocephalus the optic, as well as other cerebral nerves, has been found deficient of its nervous elements, and consisting simply of neurilemma; one of the most curious observations is that of the existence of a retina, without an optic nerve, in a dog with cyclopia. Congenital atrophy of the nerve is frequently mentioned. The congenital anomalies of the optic nerve recorded, as seen by means of the ophthalmoscope, are: atrophy, abnormal insertion in one eye, absence of, or misplacement of its vessels, coloboma of the nerve or of its sheath. Abnormal insertion of the nerve into the globe is classified by Desmarres as amongst "the principal maladies of the optic papilla;" it gives rise, he says, when the second eye is sound, to amblyopia with strabismus, which may be cured by suitable treatment. This anomaly must be very rare, and further observations beyond Desmarres' statement, and one somewhat doubtful instance recorded by v. Graefe, are, I think, necessary to establish its occurrence. I look upon the cases of recorded absence of the central vessels as ones of complete atrophy. The vessels, instead of appearing at or close to the centre of the disc, may project near its periphery, and there may be, instead of one principal arterial and one venous trunk, several, as the vessels may break up into branches within the nerve instead of on its intra-ocular surface. Part of the disc may be occupied by a white patch which extends into the retina; or there may be spots of black pigment on the disc; the outline of the disc may be irregular and angular, and may vary from the usual circular shape. With coloboma of the iris is sometimes also coloboma of the choroid, retina, and optic nerve, or its sheath; this coloboma is easily recognized as a white, irregularly oval or pear-shaped figure, extending from the periphery to the optic papilla, part of which it may include.

As the exterior of the eye is scarcely alike in any two individuals,

so does the appearance of the optic papilla also vary in almost every individual; and I find it a difficult matter even still sometimes to decide, from inspection alone, whether the nerve under observation presents a normal appearance or not. When any doubt exists as to the condition of one or both nerves, a careful comparative examination of the second eye should be instituted, and the acuteness of vision tested with Snellen's type, and the field of vision accurately noted before pronouncing an opinion. Patients' statements as to their vision should be received with a great deal of caution, for they not unfrequently give a false report either intentionally or unintentionally; patients are frequently themselves in ignorance of their exact amount of sight, or even of the visual defect in one eye. Thus I have occasionally demonstrated to persons that they were partially or wholly blind of an eye, when they asserted or believed the contrary. It is well in all cases to keep a written record of the visible appearance and the amount of vision, as well for scientific as for practical purposes. Such accurate tests, and the notes thereof, from day to day, are not only of practical and scientific importance, but may guard against and prevent misunderstandings with our patient or the patient's friends.

Anemia.—The intra-ocular end of the optic nerve, denominated optic papilla or optic disc, is found sometimes anemic, of a very pale, blanched, or white colour, but quite transparent, and its large vessels perfect; this condition depends on a general anemic condition of the body. *Embolus* of the central artery may also produce this condition. I lately saw a gentleman in whom, I believe, this obstruction of the central artery had occurred, producing total blindness in a few minutes; the second eye having been lost and collapsed from injury many years previously; the optic disc was of a very pale, bluish tint, the arteries had altogether disappeared, and there remained only two or three fine thread-like veins, which seemed to vary in calibre every now and then; the surrounding fundus was healthy, with the exception of a couple of scarcely visible white specks about the position of the yellow spot.

Hyperemia, or congestion of the papilla, is of much more frequent occurrence than anemia; it is often temporary, sometimes enduring; the optic disc is partially or wholly of a pink or reddish colour, and a stippled appearance, with the centre of the papilla bright and normal; if the parts be highly magnified with a 4" convex, the pink stippling will be seen to consist of capillaries; the white central spot is either a physiological excavation or the ordinary

healthy nerve; the central vessels in hyperemia are rather enlarged; the nerve may also be somewhat hazy, and its outline dimmed, or the entire papilla may be even slightly swollen. The appearance of the optic papilla, with healthy and perfect nervous function, corresponds often with that of hyperemia. We should therefore, in all such cases, be careful to examine into the subjective phenomena; congestion of the papilla may be confounded with asthenopia, hypermetropia, or astigmatism; a careful examination of the refractive condition should therefore also be instituted. I frequently find redness of the papilla to ensue after the application of atropine, and this is another reason why I make it a rule first to examine the fundus before dilating the pupil.

Neuritis.—Inflammation of the optic nerve is not often seen in its earliest stage, as the affected person neglects applying for advice until the disease has made considerable progress, and its symptoms become inconveniently established. Congestion of the papilla gradually merges into inflammation, and to distinguish one from the other and pronounce where one ceases and the other begins is no easy matter. In practice we find an acute, subacute, and chronic form. Acute neuritis is so well marked and its appearances so decided, that it cannot be well overlooked or mistaken, and when once seen is not easily forgotten. The papilla loses its transparency; is of a general red colour, which varies in intensity from a slight red to a deep dark red, contrasting by its dulness with the bright red of the normal fundus; it is swollen, œdematous, and projecting beyond the plane of the retina, as may be seen with the binocular ophthalmoscope, or by the curved course of the vessels in their descent from the elevated papilla into the lower lying level of the retina; it is dull, hazy, or opaque, from vascularity and serous infiltration; its outline is irregular, ill-defined, hazy, or altogether obliterated, and it becomes impossible to determine where the nerve ends and the retina commences: its position can only be determined by the relations of the large vessels, and its being the point of their convergence; its size appears sometimes abnormally large. The central vessels are partially or wholly obscured by the infiltration; generally the arteries are very thin, or even obliterated, while the veins are large, gorged, tortuous, and concealed here and there by the exudation. The nerve in neuro-retinitis from Bright's disease, presents generally a striated appearance, greyish or white-coloured streaks radiating irregularly outwards through the red surface towards the retina, with here and there small spots or lines

of hemorrhage free in the disc, or along the course of its vessels; the nerve outline wholly disappeared, and the disc appearing abnormally large, and the retina involved in the morbid process. The papilla may be uniformly dark red, swollen, and its vessels indistinct or interrupted, and the retina quite free from disease; we see this state in cerebral disease. Dr. Lyons lately showed me a patient under his care with undoubted cerebral disease, where both optic nerves were uniformly and intensely red, enormously swollen, and infiltrated; the lower part of each papilla appeared more prominent than the upper part, and the vessels underwent a considerable bend in their passage from the projecting papilla into the retina; the demarcation between the swollen and opaque papilla and the retina was very well defined and manifest in this case, as the patient was blonde, and the choroidal pigment scanty; and the light, yellowish colour of the choroidal vessels and stroma contrasted markedly with the overhanging dark red papilla. Occasionally one side of one or of both optic papillæ is hazy, with indistinct margin, and presenting all the appearances of slight inflammation. A variety of neuritis is described by some authors as *perineuritis*, in which the swelling, infiltration, and redness are confined to the peripheral parts of the nerve, while the central portions remain comparatively normal. There is a subacute form of neuritis constantly met with during the progress of cerebral disease; the papilla is of a reddish grey, slightly swollen, and having what Dr. Hughlings Jackson describes as a "woolly" appearance.

Neuritis may occur acutely and rapidly without any warning, and may cause blindness in a very few days, or there may be premonitory symptoms; generally it arises slowly, is chronic and insidious, and the impairment of vision is so slight and so gradual that we are not consulted till long after the establishment of the disease and considerable alterations have taken place; neuritis may also be periodic, each attack resulting in a further diminution of vision. Neuritis may exist and cause even blindness without any direct symptom or ophthalmoscopic evidence, when the inflammation and changes are confined to the extra-ocular portion of the nerve; sooner or later, however, such an inflammation will either extend to and manifest itself in the intra-ocular end or cause its atrophy; neuritis may also exist, but be invisible in consequence of opaque media. One eye is generally first affected, and the second one becomes attacked a short time afterwards; there is often a very slight difference in the amount of vision of the two eyes.

When both eyes are simultaneously affected the cause is nearly invariably cerebral.

There is no one symptom or group of symptoms characteristic of neuritis in particular. I know of no constant symptom in this malady beyond the loss of vision, and this, as well as other symptoms, are common to many and variable disorders. The loss of vision may be rapid, or slow and progressive; there is often a gradual narrowing of the field of vision from the periphery inwards, until finally total blindness ensues; pain, intolerance of light, coloured and luminous spectra may be present or absent; there may be dark arborescent figures, flashes of light, balls of fire, or hideous objects, and all these present themselves to the patient by day or night, frequently the latter, whether the eyes be open or shut. I attended one person affected with chronic neuritis, which terminated in complete blindness, who described to me how tormented he was with flashes of light, showers of snow, globes of fire, and at other times with dark, black objects, or even human faces, before him. The only reliable evidences of the existence of neuritis are those yielded by the ophthalmoscope. Neuritis of the optic nerve being so constantly a mere extension of inflammatory processes within the cranium, symptoms of cerebral lesion are also constantly present; there is pain in the head, diffused or localized, more or less violent, persistent or temporary, and periodic; sickness of stomach and vomiting, giddiness or even loss of consciousness, buzzing in the ears, incapacity for mental exertion, loss of memory, difficulty or loss of speech, strabismus on one or both sides, double vision, owing to paralysis of third or sixth nerves, and want of co-ordination, dilatation of pupils, or hemiplegia. Some writers have sought, from the ophthalmoscopic appearance of the nerve and fundus, to pronounce upon the exact seat and the nature of the cerebral disturbance; and notably Professor Bouchut, of Paris, who has written a very elaborate work on the subject: *Du Diagnostic des Maladies du Système Nerveux par l'Ophthalmoscope*, appended to which is an atlas containing twenty-four bad and unreal chromolithographs, representing the fundus in "tubercular meningitis, rheumatic meningitis, hydrocephalus, partial chronic encephalitis, idiotcy, cerebral hemorrhage," &c., &c. It is, I believe, impossible, in our present state of knowledge, to fix or localize the cerebral lesion from the appearance of the fundus; it is impossible, in many instances of cerebral disease, to determine its seat and nature, even taking every symptom, objective and

subjective, into account; neuritis or atrophy of the nerve with blindness, co-existing with other symptoms of cerebral disease, will render us certainly very valuable assistance as a link in the chain of evidence, and the ophthalmoscope should be employed in all cases of suspected or confirmed intra-cranial disturbance. Disease of the optic nerve and amaurosis may result from disease of any part of the brain; it does not follow, however, that disease of the brain must cause amaurosis. Extensive disease of the brain may exist in one individual without causing any serious disturbance for a considerable period, which, in another person, may cause amaurosis and other symptoms; the tolerance of the brain in some individuals to extensive disease was well exemplified by a case of disease of the temporal bone and the brain, brought forward by Dr. Eustace at the Pathological Society in 1866-67. Amaurosis due to cerebral disease may exist without any ophthalmoscopic evidence. I saw a young patient some years ago who was perfectly blind of one eye, and in whom various paralyses became established some six months subsequently; partial loss of motor power, loss of smell, and of sensation in one side. This person recovered eventually, and regained perfect vision. At no time during the illness was there any deviation from the normal in the optic papilla. Double amaurosis occurs as a rule in consequence of disease of the central nervous system; optic neuritis has been found by Dr. Hughlings Jackson more frequently with hemiplegia of the left than of the right side. Dr. Jackson remarks in his philosophical and practical "Observations on Defects of Sight in Disease of the Nervous System," published in the *Ophthalmic Hospital Reports*:—"In all cases of neuritis in which I have made a *post-mortem* examination, there always have been found notable organic disease of the head. But, as I have repeatedly said, from this symptom, with or without headache and vomiting, we cannot, during life, predict where the intra-cranial disease is, nor what it is. If, however, there is hemiplegia besides, or, as I think, unilateral epileptiform convulsions, we have strong evidence that the amaurosis depends on disease of the hemisphere. The hemiplegia may precede or follow the amaurosis; it may be passing or permanent, but in all the cases in which it had been in any way present during life, I have found disease of the hemisphere *post-mortem*." In a note he adds, he has seen a tumour pressing on the crus cerebelli, causing paralysis on the same side as the lesion, and amaurosis, but that in such cases paralysis of one or more of the cranial nerves arises, which shows

the disease to be at the base of the brain. Anything which gives rise to congestion or inflammation of the brain or of its coverings may also cause neuritic congestion or inflammation. Typhus fever, the exanthemata, mental emotions, injuries of the head, intra-cranial tumours, disease of the meninges or of the brain itself, or of the spinal chord, suppression of the catamenia, cardiac or aneurismal diseases, local apoplexy, Bright's disease, tumours of the orbit pressing on the nerve, or causing exophthalmus, intra-ocular tumours, cellulitis of the orbit, pyemia, disease of the retina and choroid, or panophthalmitis, may all cause neuritis. Towards the end of last winter I saw a young girl with considerable redness and vascularity of the optic papilla, the inside of the discs being infiltrated, very hazy and indefinable; the veins were large and gorged, and the vessels presented an interrupted appearance. I attributed this state of affairs to intra-cranial causes, and the physician under whose care she was informed me subsequently that she had had very many falls on the ice during the severe weather, and that her head frequently came in violent contact with the ice. Vision in the left eye was confined to the perception of large objects. With this eye, which presented the greatest amount of disease, Snellen's largest type could not be read, and with the right eye No. 40 only at 14 feet. I have been lately informed that this girl recovered perfectly, at which I am much astonished, for the usual termination of so much disease is at least partial atrophy and blindness. Another cause of impaired vision and chronic neuritis consists in the immoderate use of alcohol or tobacco; there is a recognized form of blindness known as "tobacco amaurosis," which Mackenzie was chiefly instrumental in establishing and bringing under the notice of the profession. When occasionally visiting the eye infirmary in Glasgow, some years ago, I was very much surprised at the frequency of this term and the large number of cases denominated tobacco blindness at the clinique of that institution. I have no doubt of the occurrence of this blindness, but I have doubts as to its great frequency; it is singular that amongst the thousands, or I may say millions, of smokers, blindness can be so comparatively seldom attributed to the poisonous influence of tobacco. Patients labouring under this malady are scarcely ever seen until the disease has passed through various stages; in a very few instances, which I believed to have been the early stage of tobacco amaurosis, the nerve presented a very slightly swollen pink appearance and partial whitish opacity. I not unfrequently see alcoholic amaurosis

in which there is decided congestion and even infiltration of the papilla; it presents a dimmed soft swollen appearance, the vessels large but not as distinct as they should be, the outline of the disc not sharply defined, and the whole fundus congested. This is sometimes, I think, primarily due to choroiditis. The affected person complains of dimness of vision as if a mist or veil was before the eyes. They see best in strong light, but at no distance can they see well. Such persons may recover their sight under suitable treatment and total abstinence. I have occasionally seen neuritis and amaurosis in children co-existent with or subsequent to cerebral lesion.

Neuritis when engaging the whole nerve is nearly always fatal to vision, and partial or complete blindness results; it may sometimes remain stationary for a time, and then progress, or vision may even improve slightly temporarily, but it will get worse again or disappear. In rare instances it ends favourably, and vision is restored. As a rule, however, the tumefaction subsides, the redness disappears, and the nerve undergoes disorganization and becomes atrophied.

Atrophy of the Optic Nerve presents itself to us under different aspects, according to its origin and degree. In well marked examples of this malady, the optic papilla presents a white glistening, tendinous appearance, which cannot easily be overlooked or mistaken, for it contrasts so vividly, by its dense whiteness, with the surrounding bright red field, that it forms a very prominent and conspicuous feature in the image; it appears as a flat white disc set in a red field. The capillaries and small vessels have totally disappeared, and the central vessels are very few and attenuated thread-like lines, the arteries may be visible, but empty, or may have completely vanished, and the veins be very thin, or, in rare cases, also have disappeared. The lamina cribosa becomes frequently invisible from opacity of the nerve surface. The boundaries of the optic papilla may be very sharply defined, and its shape perfectly circular, or it may be oval according to whatever anatomical shape which may have existed prior to the invasion of the disease; the disc is seen sometimes surrounded by a large circular white zone, which is due to the sclerotic, the choroid being atrophied all round; this is, however, only a coincident feature; the outline of the disc may also be irregular and appear to encroach on the retina. The colour of the nerve varies; in cerebral amaurosis it is generally of a dense white and sometimes even of a metallic lustre; in other cases the nerve is of a bluish grey or

a greenish blue tint. In the commencement or in slight degrees of atrophy it may be easily overlooked; the disc is pale, wanting in transparency, its vessels diminished in calibre, one portion of the nerve may present an atrophied condition, while another may be of a natural delicate pink colour, or be congested and vascular. The papilla, when atrophied, is frequently also excavated, but this excavation differs materially from, and presents quite different characters to those seen in glaucomatic excavation; the depression due to atrophy does not extend beyond the plane of the choroid, and the lamina cribrosa is not displaced; the depression is very superficial, and does not present the steep walls and sharp rectangular margins of the glaucomatic excavation, nor the temporary disappearance of the vessels as they descend into the cup; neither is there pulsation, either spontaneous or arising on slight pressure, as in glaucoma.

Atrophy of the optic nerve is frequently a chronic progressive disease, advancing slowly, and causing gradual loss of vision, without any pain or other appreciable symptom; and the patient does not seek special advice until an advanced period of the disease. It is sometimes very difficult to decide whether the appearances of the nerves are those of atrophy in its early or mild stage, or whether the nerve is really normal; in such a case we must make a careful examination of the entire fundus, of the state of refraction, and of the second eye, if it be unaffected; and thus by elimination and differential diagnosis we may arrive at a just conclusion; where congestion or inflammation of the nerve has been seen to precede the supposed alteration of the nerve, and the impairment of vision, there can be little doubt as to the existence of the atrophy, but in such cases the disease manifests itself very plainly to our view.

The symptoms of atrophy of the optic nerve are of the most variable and diverse, and include the majority of those usually mentioned in works under the heading "*Amaurosis*;" the invariable and constant one is impaired vision, diminution of the field of vision, and of the acuteness of vision.

The best diagnostic symptom of disease of the optic nerve is impairment of the central acuteness of vision and gradual concentric narrowing or limitation of the field of vision. The anterior or peripheral portion of the retina is normally the least functionally active part of the sensitive apparatus, which is readily comprehended, if we bear in mind that the retina, at its periphery, has become thinned, and that its nervous elements have become scanty or have altogether disappeared at the *ora serrata* itself. The retina consists simply of

cellular tissue. Any interference with the optic nerve acts at once also on the least highly endowed portion of the retina, and renders it functionless; hence the peripheral portions of the visual field suffer first and become obscured; as the optic nerve disease advances the more highly endowed and sensitive parts of the retina also become deprived of their nervous energy, and corresponding obscurations advance in the visual field, until it is finally reduced to a small limited space, or obliterated; the remaining small field may be circular, and correspond to that part of the retina in which is normally situated the seat of distinct vision, or the field may be slit-like, and correspond to the expansion of the optic nerve fibres, between the nerve and the yellow spot; the obscuration may not be concentric, but may be irregular, or the field of vision may be obscured in spots. At the same time that this concentric obscuration occurs the central acuteness of vision also becomes impaired, and the patient is unable to read anything but the largest type, and even that indistinctly.

Atrophy of the optic papilla may result from all the causes mentioned above, as causes of congestion or actual inflammation of the optic nerve; it may also occur without any inflammation of the nerve. Tobacco causes frequently disturbances in the circulating system, brought about by nervous agency. I believe the tobacco acts poisonously on the sympathetic nerve and brain, and even causes functional paralysis, and the optic nerves suffer secondarily or participate primarily in the process, and become afterwards atrophic; the papilla is not extensively atrophied, nor does it present the dense white of cerebral amaurosis, and vision never entirely disappears. One of the chief arguments in favour of the existence of tobacco amaurosis is the fact, that vision improves on the discontinuance of the use of tobacco. The immoderate use of tobacco and intemperance are very frequently found in the same individual; impaired vision is more generally attributable to alcoholism; I often see it in persons who do not make use of tobacco at all; but where the two go hand in hand, and are used in poisonous excess, it is difficult to draw the line of distinction between them. In the alcoholic atrophy I think the nerve is of an indistinct bluish grey colour, and somewhat opaque; the outlines of the disc are indistinct; the arteries appear sometimes perfectly empty and transparent along their centres, or as whitish reflecting lines with dark outlines; the veins are large and tortuous, and they also may appear partially empty; the affected person complains of a mist before him, his visual field is limited, and he cannot see distinctly at any distance.

Atrophy of the corresponding sides, or of different sides of the optic nerve, as well as similar paralysis of the sides of the retina, have been observed in hemiopia; atrophy of the nerves has also been found in ataxie locomotrice. I was consulted two years ago by a young man, about his sight; he presented very partial and ill-defined atrophy of both optic nerves, and complained of various disturbances of vision, such as occasional double or confused vision, or disappearance of objects; some months subsequently this man had pretty well marked ataxie, and I had him under observation and treatment for some months, but lost sight of him until a few weeks ago, when I observed him in the street, walking with a peculiar shuffling running gait. A frequent cause of atrophy of the optic nerve is said to be atheromatous degeneration of the vessels at the base of the brain, and of the brain itself; it is, according to Galezowski, who has written an excellent essay on *Les Altérations de nerf optique et les maladies cérébrales d'ont elles dependent*, the most frequent cause; choroidal disease, and the frequently concomitant staphyloma posticum, retinitis, neuro-retinitis, hemorrhages, glaucoma, cysts, and tumours in the nerve, and obscure changes in the nerve, such as fatty degeneration, all cause atrophy of the optic papilla.

The principal pathological alterations which occur in the atrophied optic nerve, consist in destruction of the nervous elements, and the formation of cellular tissue. The papilla is flattened, and its transparent nervous portion replaced by dense cellular tissue. The whole nerve is found flattened; its sheath dilated, or sacculated, and but loosely attached to the nerve, owing to shrivelling of the nerve itself; the interspace between the sheath and the remains of the nerve is filled with serous exudation, and a loose reticulated network of delicate connective tissue; the bundles of nerve fibres become shrivelled, of a dirty yellowish tinge, and widely separated in consequence of the increased thickness of their enclosing neurilemma; the newly formed cellular structure, or the hypertrophied remains of the original tissue may undergo degeneration, and contain fat globules and cholesterine. The small vessels and capillaries completely disappear, and the central vessels may also disappear, or be converted into dense tendinous strings, with atheromatous or pigmental degeneration of their walls; occasionally the vessels are represented by lines of chalk-like substance; sometimes they are permeable, or they may be closed and filled with disorganized blood, or with a hyaline, granular substance. One of the most beautiful

works on microscopical pathology with which I am acquainted, Professor Wedl's *Atlas der pathologischen Histologie des Auges*, published with the co-operation of Stellwag von Carion, contains several figures illustrative of atrophy of the optic nerve. In one instance the sheath of the optic nerve was found adherent to the neurilemma of the nerve fibres, and the latter displaced; in another, the interspace was filled with a trabeculated structure, the interstices of which were occupied by a thin gelatinous mass—embryonic cellular tissue. On rare occasions the nerve has been found ossified.

Apoplexy of the disc itself, will lead to atrophic degeneration. I have seen a case where the upper half of the optic disc was occupied by a recent hemorrhage, of a dark-red colour and irregular outline, the lower part of the disc was pretty normal, and part of the retina was clouded. The patient could see the upper part of objects before him, but not the middle or lower portions.

Tumours of a benign or malignant character originate occasionally in the optic nerve, but unless situated in the visible portion of the nerve they cannot be ophthalmoscopically diagnosed. Some cases are on record of tumours springing from the intra-ocular end of the optic nerve; and, in a very few instances, tumours in this situation have been recognized by means of the ophthalmoscope. In a case recorded and figured by Jacobson, in Vol. x. of the *Archiv für Ophthalmologie*, the papilla was very irregular in its outline, and projected unequally into the vitreous tumour, with white reflecting striæ on its surface; one portion of the papilla presented a yellowish brown atrophic condition, another part was slightly swollen and vascular, and a third projected more than the others beyond the plane of the retina, was of an intense light blue colour, and devoid of vessels; the vessels were partly attenuated, or presented here and there bright white outlines, and disappeared suddenly; part of the disc was surrounded by a dense mass of pigment; on enucleating the eye the diagnosis was confirmed and a tumour found occupying the optic papilla; several similar ones were removed from the orbit; they were all composed of a mixed form of tissue, the cellular structure sclerosed, and at the part of the ocular tumour, which appeared brown coloured, there was a bony plate in connexion with the choroid; the tumour was denominated myxosarcoma.

Aneurism of the central artery of the retina occurs within the optic nerve very exceptionally, but it is doubtful whether it can be diagnosed. Sir William Wilde possesses, in his very extensive and magnificent collection of illustrations of ophthalmic diseases,

the drawing of a case in which aneurism of the central artery existed.

There are various other diseased conditions in which the optic nerve becomes implicated, but as they are not recognizable by means of the ophthalmoscope, they do not come within the scope of the present paper.

Glaucomatic excavation of the optic papilla forms in itself so large and important a subject, that I must reserve its discussion for a separate communication.

ART. XIII.—*On Renal Diphtheria.* By EWING WHITTLE, M.D., M.R.I.A.; Senior Honorary Surgeon to the Liverpool Dispensaries, and Lecturer on Medical Jurisprudence to the Liverpool Royal Infirmary School of Medicine.

I APPLY the term of renal diphtheria to that form of diphtheritic fever in which the characteristic exudation on the tonsils is either absent, or, if present, only observed in a very slight degree, and in which the most striking feature is derangement of the functions of the kidneys. It is well known that in the latter stages of diphtheria we frequently meet with a diseased condition of the kidneys, with a copious elimination of albumen in the urine, occasioning anasarca of the cellular tissue, and a condition generally very similar to that of dropsy after scarlatina.

In the case of which I now proceed to detail the particulars, the renal affection was a marked feature from the commencement, but presenting this remarkable peculiarity, that there was no albumen in the urine, the renal symptoms being rather those of diabetes insipidus.

Jan. 23, 1866.—Eliza S., aged eleven, had been feeling ill for a day or two, and having taken much worse towards night, I was sent for. I saw her about 10 p.m. She was then in a high fever, the skin very hot, face flushed, the pulse 140 and sharp; there was delirium and great excitement. There was no fulness about the neck, and nothing to be seen on the tonsils, neither could any eruption be detected on the skin. My first impression was that it would prove to be a case of scarlatina.

I ordered a dose of calomel and James's powder, a diaphoretic

mixture, a cold application to the temples, and a sinapism to the nape of the neck.

24th.—She was more calm, but scarcely knew any body; fever not quite so high; no eruption on the skin; nothing apparently wrong with the throat.

25th.—Much improved; now quite rational; pulse down to 112. She is very low and prostrate; the tonsils look a little reddish. On the day before I had begun to regard the case as one of masked diphtheria. I arrived at this conclusion, *par voie d'exclusion*. If scarlatina had set in with such violence the characteristic eruption would have appeared by this time, or the patient would have succumbed to the poison, which must have fully pervaded the system to have produced such severe symptoms in its access. No inflammatory affection of the brain or its membranes would have set in so rapidly and so soon declined in severity. These considerations led me to the conclusion which I expressed confidently to the parents, that the disease was essentially diphtheria, and this diagnosis was very soon strikingly confirmed.

This day I ordered her small doses of carbonate of ammonia and a little wine.

26th.—To-day she appeared quite convalescent. But two sisters, one aged thirteen, the other five, were taken ill. The elder, Mary Anne, seemed affected like her sister Eliza, but not nearly so ill; her throat was red, congested, and showed a few small diphtheritic patches. Emily's was a case of well-marked diphtheria; the throat very much affected internally, and the glands in the neck very much swollen and very tender. She was dangerously ill for about ten days, but in her case there was no renal complication.

27th.—On this day the parents were both ill with diphtheritic sore throats and a considerable degree of fever, which lasted for several days, but they were not confined to bed.

To return to Eliza. She kept very low and had no appetite, but was now quite free from fever. On examination the urine was found to be alkaline, sp. gr. 1008, but contained no albumen. Quinine, with hydrochloric acid, prescribed. She continued to improve for several days, though the urine was still alkaline.

Feb. 1st.—She got up; appearing to her parents much better, she was now allowed to make too free; the result was that in a few days she was taken very ill again.

Feb. 4th.—This day she was not able to get up; had no

appetite whatever; her skin was very hot and dry, and she complained of intense pain in the head. The urine had a more decided alkaline reaction; very low; sp. gr. 1002, but there was no albumen. It was now observed that she passed urine in large quantities, and she would scarcely drink anything but water. Dover's powder, with acid mixture, prescribed.

5th.—To-day she was better, and more free from fever, but throughout the remainder of the month there was little or no improvement. She would take hardly any food; she drank a great deal of water, and would take very little wine. She could be got to take very little medicine. She passed daily from five to seven pints of water, nearly colourless, varying in sp. gr. from 1002 to 1003; reaction always alkaline, never containing any albumen. She was subject almost every day to violent paroxysms of headache, which, after lasting several hours, became relieved spontaneously by a copious discharge of urine; as quinine seemed to afford no relief, it was discontinued, and small doses of muriated tincture of iron substituted for it. This always had a good effect when taken regularly; the headaches being much less severe, and the urine decreasing in quantity and improving in quality.

March 1st.—Urine now 1005, still alkaline; headaches less severe. From this day she took the tincture of iron more regularly, and as she did she steadily improved.

12th.—The urine has a sp. gr. of 1008, and is diminished to about two quarts in quantity.

18th.—It was now 1010 and neutral; her appetite was now returned, and the headaches nearly gone.

26th.—The urine reached the sp. gr. of 1013, and now, for the first time, had an acid reaction, and was reduced to about the natural quantity; there were now no headaches; the appetite was pretty good; she was able to be up, and was improving both in health and spirits; in fact, seemed to be well. However, I advised the medicine to be continued for about another week. This advice was not attended to. She now looked upon herself as well, and was even allowed to go out.

April 2nd.—She was now not so well again; the headache had returned; her appetite had fallen off, and the urine was again alkaline, increased in quantity; and on this day (and on this day only) contained a trace of albumen. She was ordered an aperient, confined to bed for two or three days, and the tr. ferri., with acid. hydrochl. dil. resumed. She gradually improved, the urine

varying from 1009 to 1011, but containing no albumen, and having an alkaline reaction.

12th—On this day the sp. grav. was 1013, and the reaction acid. The improvement continued steadily from this date; at the end of a week she was quite well, the urine natural in every respect.

Throughout the whole case there never was any trace of sugar in the urine.

The sister Mary Anne, was affected in the same way as Eliza (but not in the same degree) *quoad* the renal secretion. She took the tr. ferri. steadily, and was pretty well at the end of a fortnight from her first taking ill.

I think this case worthy of being recorded as a remarkable instance of diphtheria manifesting itself purely as a nervous fever; the lesion of innervation evidenced in the early stage by high delirium and excitement, and in the chronic stage by violent headaches of a nervous character; and these paroxysms being evidently connected with functional derangement of the kidneys, seemingly due to nervous lesion, for the absence of albumen from the urine shows that at no time were the kidneys in a state of congestion; and in this case we may, I think, draw the conclusion, that the force of the poison, if the poison be really present in the blood, was expended on the nervous rather than on the circulatory system.

ART. XIV.—*Notes in Medicine and Surgery.* By PHILIP C. SMYLY, M.D., F.R.C.S.I., L.C.P.I.

- I. PARALYSIS FOLLOWING OR CAUSED BY BLOOD POISONINGS; COMPLETE RECOVERY. BEING A PAPER READ BEFORE THE MEDICAL SOCIETY OF THE COLLEGE OF PHYSICIANS.
- II. A CASE OF RUBEOLA? OR HYBRID OF MEASLES AND SCARLET FEVER. DEATH FROM SUDDEN HEMORRHAGE INTO THE BOWELS.
- III. A CASE OF PURPURA, WITHOUT FEVER; DEATH FROM HEMORRHAGE INTO THE STOMACH.

THERE are few who have observed disease even for a few years who have not been struck from time to time by what may be termed mixed or mule cases, and also by observing that there is

a kind of alternation of certain diseases, generally classed as distinct, and yet with a degree of certainty traced to the same poison; for example, a person exposed to scarlet fever poison may take erysipelas or puerperal fever. Diphtheria may produce hospital gangrene, and hospital gangrene malignant sore throat, and so on.

The following cases, I think, illustrate this alternation in some degree. They are also interesting in other respects.

CASE I.—The first case was of a child, about four years old, whose illness Dr. Smartt describes thus:—

“The child was a day or two ill when I was called in, and was then suffering from the ordinary symptoms of tracheitis; the patient was hoarse and feverish, with a constant brassy cough; after some time the inspirations became very much prolonged, with the characteristic crowing noise of croup. As time advanced the fever increased, and the child became exceedingly restless, irritable, and drowsy; the breathing was now gasping, and the skin got quite cold and covered with clammy sweat.” The child then died.

CASE II.—The father of the child attended him night and day through his illness. On the 12th of September he went to a press to get something for his child, and on putting in his hand a mouse seized the soft part of his thumb with such force that it could not extricate itself; he had to tear it away with his other hand.

The child was so ill that no attention was paid to the injury for some days, though it gave him great pain. On the 15th the thumb had swelled, and a poultice was applied; and on the 20th a deep seated whitlow was opened. The arm was so swelled that leeches were applied; an abscess formed at the elbow, which was opened on the 29th. Dr. Smartt says:—“The inflammation extended up the arm to the lymphatics in the axilla, and several abscesses formed on the hand and arm, which were opened from time to time, and free incisions had occasionally to be made on the arm.” When he arrived in Dublin he was very much prostrated, and had completely lost his sleep. The bone of the first phalanx of the thumb was exposed, and there were extensive and deep sloughs both on the arm, and fore-arm, and hand. The large linseed poultices were changed for the perpetual bath, to which was added tincture of belladonna, and a rather high temperature maintained. I may state that the reason for abandoning the

poultices was that changing them produced fainting, and the discharge was so great and so offensive that they had to be changed twice a day.

On the 12th of November the arm was nearly quite well; he was able to walk about, and was getting strong in every way. He then began to complain of what he called a wall across him, beyond which nothing would pass. He got obstinate constipation, and at the same time his limbs began to fail; his sight also became dim, and he complained of want of energy and ability to exert his mind.

On the 23rd of November he went to the country, able to stand and walk with assistance. He soon lost all power in his legs and then in his arms, and on the 5th of December he was quite helpless. On the 8th he began $\frac{1}{4}$ grain doses of ext. nux vomica three times a day.

On the 20th December he returned to Dublin, and Dr. Stokes saw him with me. He was then quite unable to move in bed; both legs were insensible to touch; the right arm was quite powerless, and the left could be moved slightly with considerable exertion. He was unable to feed himself. Dr. Stokes advised the nux vomica to be continued, and recommended galvanism.

On Christmas-day I applied the galvanism for the first time. I used one of the electro-magnetic machines. One conductor was attached to the foot, the other placed in the hand of the same side; but though I pulled out the button to its full extent no muscular contraction could be produced. Thinking that the machine was out of order I took the conductors in my own hands, and the contraction was so violent that my arms were sore for several days after. The galvanism was applied every day for several hours by his attendant, with marked improvement in sensibility, until the 20th of January, when he was able to use both arms and legs. On the 6th of February he was able to walk alone, and went to the South of Ireland; and he is now quite well and able to walk and ride without fatigue.

CASE III.—This gentleman's mother went down to the country to attend her grandson, but arrived late, just after the child's death. She attended her son for some days, and then returned to town to prepare her house for him. Having completed her arrangements she went to the Co. Wicklow with her daughter, to leave the house for her son and his family. On the 6th of October she felt very ill and weak, and was confined to bed with a very severe attack of

eczema, from which she had been suffering slightly when she first attended her son.

On the 16th of *October* she was well enough to be lifted on the sofa; on and after the 30th she was able to walk out of doors without fatigue. On the 7th of *November* she fainted suddenly at the dinner table, and was carried up stairs. This was followed immediately by high fever, little or no sleep, and complete distaste for food. On the 19th erysipelas appeared on the face and spread over the head, and faded away in a few days.

She then complained of pain and numbness in the right arm and in the knees and feet. She then fell into a sort of swoon, which lasted for some hours; when she returned to consciousness one side of her face was fixed, and there was slight distortion to one side. This gradually subsided, and at the same time the right knee swelled as if pyemia was setting in. In a few days both legs and arms became œdematous and completely paralysed; insensible to touch, though exquisitely sensitive to changes of temperature. A cold hand applied to the surface felt like a burning coal. Urine scanty and albuminous. Extract of *nux vomica* and galvanism, with mild diuretics, were employed with gradual improvement. On the 20th of February she was first able to walk a few steps with assistance. She is now quite well, with the exception of slight œdema of the ankles in the evening, and slight stiffness of the right shoulder.

CASE IV.—This lady was attended from the 6th to the 16th of October by her daughter (who never attended or was in contact with either of the first two cases). On the 16th she first complained of sore throat; she had very high fever; well-marked false membrane all over the uvula, soft palate, and tonsils. Dr. Darby, of Bray, treated her most successfully, and she was pronounced quite well on the 28th of October. Some days after her voice began to be again nasal, and the soft palate became completely paralysed, and continued so for about six weeks. She was treated for the paralysis with tincture of *nux vomica* in decoction of bark.

To recapitulate.—The child died in a few days of a blood poison, implicating the throat and presenting symptoms of croup.

The father received a wound while attending his child, got diffuse inflammation, recovered, and was subsequently paralysed, without having had any throat symptoms.

His mother, with slight eczema, attended him, got the eczema

frightfully aggravated, followed by erysipelas, and by symptoms of pyemia, got much better, and then became paralysed and anasarcaous, and had symptoms of albuminuria, with no throat affection.

Her daughter, who only attended her, and was never in contact with either of the other patients, got a throat affection, high fever, false membrane in the pharynx, got well, and subsequently got paralysis of the soft palate.

Were these an accidental sequence of diseases, or were they different phenomena of the same blood poison, modified by the condition of the patients, or circumstances in which they were placed?

From the researches of Bretenau, Greenhow, and many others, we know that the sequelæ of diphtheria are very various.

Greenhow says paralysis is not an uncommon affection; and Roberts, Eisenman, and others, describe a form of hospital gangrene as diphtheritis. I will not take up the time of the Society with the literature of diphtheria, which is rather extensive, but I will feel that I have done a good work if these few notes be so fortunate as to elicit some of the wisdom of the heads of the profession on this very interesting and difficult subject—the nature and effects of blood poisons.

I. Rubeola, or Hybrid of Scarlet Fever and Measles.

II. Purpura.

I.—The two following cases, though not connected directly with the epidemic of malignant purpuric fever, are interesting, as they are illustrations of the apparent tendency of the epidemics of last spring to assume a hemorrhagic character:—

On the 8th of May I was called to see a child, about six years of age, who had been feverish for a day or two; the eyes a little red and watery. The measles being at the time epidemic, I concluded it was a case of measles. On the 9th I saw the child again; the fever was intense, and a bright red rash had developed itself on the legs and arms, like scarlet fever. The throat began to swell, and a slough formed on one tonsil. I called Dr. Stokes in to consult, and he agreed with me that it was a hybrid case, having most affinity to scarlet fever. I may mention that there was some intolerance of light, but no watering of the eyes after the second day. On the fourth day of the eruption in the child the housemaid became ill, and passed through a characteristic and very severe attack of measles. On the 13th the other side of the

child's throat swelled, and a whitish slough formed on it also. The mouth and pharynx were filled with thick, filthy, tenacious mucus, and the smell was very offensive. The pulse, however, was good, and he bore the wine well. The 15th he was progressing favourably, and so continued until about four in the morning of the 16th, when he called to be lifted to have his bowels moved, and complained of great pain. He passed about a pint of blood; he then lay quiet for about half an hour, when he again passed rather more than before. Turpentine and brandy and ice seemed to check the flow, but about two o'clock he passed a quantity of blood under him in bed and died.

II.—About the middle of July I was called to see a young lady who had been for some time in delicate health; she had been greatly frightened, and had also had a somewhat fatiguing attendance on an invalid. She complained of great loss of appetite, of great drowsiness; her strength had failed; she had also ugly blue and red spots round the neck and on the legs. She had had very severe attacks of hemorrhage at the monthly periods for some time. Dr. Churchill saw her with me, and by means of the ergot and tincture of larch bark the flow of blood from the vagina was completely stopped. The pulse was at first not fast, nor at any time hard or feverish. There were no symptoms of spinal or head affection whatever. Very extensive ecchymoses formed round the eyes and under the conjunctiva. Throughout the illness the patient was very unhopeful of recovery. On the morning of the 1st of August she greeted me on entering her room with "I have had such a good night, and I feel for the first time that I can get well." The pulse was good—the heart acting well, and the purpuric spots and patches all fading. The hemorrhage from the vagina and bowels had completely stopped, and in every way she was progressing most favourably. Dr. Stokes, who had seen her repeatedly during the illness, was much pleased with her condition. In the afternoon she felt great pain, and passed a large clot of blood from the vagina, and again three times in the evening. She improved again about ten o'clock, and settled herself to sleep. About one o'clock I was called to see her; she complained of intense pain in the left side, just below the false ribs, and of great sickness; she threw her arms about in great agitation; the pulse rapidly failed at the wrist, the heart became irregular, and with slight convulsions she died, evidently from hemorrhage into the stomach.

There was no *post-mortem* examination, but the appearance of the body immediately after death left no doubt on my mind that the hemorrhage was into the stomach.

Death from hemorrhage into some vital organ is not an uncommon termination to purpura. The case is interesting, occurring as it did, at the same time with the purpuric fever, and yet being a typical uncomplicated case of purpura hemorrhagica.

ART. XV.—*Description and Statistics of the Waterford Lying-in Hospital, in Illustration of the Conditions under which the Occurrence of Puerperal Fever in such Establishments may be Lessened or Prevented.* By JOHN ELLIOTT, A.M., M.B.; M.R.C.S., Eng.; Medical Attendant to the Workhouse, Fever, and Lying-in Hospitals, Waterford.

It is not probable that puerperal fever has of late years become more prevalent or fatal than formerly in Lying-in Hospitals. Indeed, such an undesirable and unexpected result would seem scarcely consistent with the hygienic and sanitary precautions and improvements which have been so largely and generally introduced into those Institutions; for although one may not be convinced that the outbreak of zymotic disease is always due to preventible causes, yet the general adoption of the measures above alluded to, as well as improvements in treatment, one would suppose must have limited the range and lessened the mortality of this terrible scourge. However this may be, and whether the mortality from puerperal fever be greater or less in Lying-in Hospitals than of old, it is certain that it has excited so much dissatisfaction, as to originate the inquiry whether these establishments, extensive and magnificent as they are, should not be closed; and the patients, for whom they are intended, be relieved and treated at their own homes. This dissatisfaction may, indeed, have been quickened into activity under the influence of the questioning and critical spirit which is testing all established institutions as well as all received opinions; nevertheless, the important question thus raised has already attracted considerable attention, and been the subject of keen discussion, as well within the ranks of our profession as amongst the lay public; and the interest already excited is pretty sure to increase rather than diminish, unless the circumstances under which it has originated can be altered for the

better. The alternative to which this inquiry points would also prove very injurious to various interests, and not last nor least to the interests of the patients themselves. Any modification, therefore, of Lying-in Hospitals, consistent with their maintenance as hospitals, is worthy of consideration, provided it remedy the evil which threatens their very existence.

Facts, however, rather than theories, are the desiderata for this purpose. It is, therefore, felt that the experience afforded by the working of a Lying-in Hospital, however small, which, for more than twenty-nine years, has never been closed for a single day on account of puerperal fever, and in which, during that period, 3,409 women have been received and delivered, with the loss of only five of that number by that fatal disease, is not without value as a contribution towards the consideration of this important subject. Under the influence of this feeling alone, the following description of this institution and its working is subjoined.

A Lying-in Charity for the relief of poor women at their own homes had been in existence in Waterford from the commencement of the present century. It had been got up and mainly supported by the Society of Friends; and in the year 1838, at the instance and with the aid of the same benevolent body, it was determined to supplement and extend the benefits which had been derived from the charity, by the establishment of a Lying-in Hospital, sufficient for the wants of the town, which should be supported, as the former had been, entirely by voluntary contributions, and managed, like it, by a committee of ladies.

Some preliminary difficulties having been surmounted, and the necessary funds having been collected, the hospital was opened in the month of March, 1838, at a small house rented for the purpose, in an elevated and airy part of the town.

Of this house, only two rooms were available for the occupation of the patients. One was a very small room, in which were two narrow couches or beds, on which the patients were delivered; and the second, a larger room, in which were eight beds. Into this last-mentioned apartment the patients were removed at the end of some hours after delivery, and they continued to occupy it during their stay in the hospital. This larger ward was lighted by three windows with a louvred pane in the upper sash of each. The door was removed from its hinges, so that the entrance was rendered a mere door-way, necessarily open at all times; the bedsteads were plain iron couches, very roomy, but devoid of tester, curtains, or

valance of any kind; the beds were of straw, inclosed in a sack or ticking, and changed for each patient.

Into this hospital 753 women were received and delivered between March, 1838, and October, 1844, a period of six years and six or seven months. Of these, six died, three of the deaths being the result of puerperal fever in one or other of its forms, thus giving a total mortality of 1 in $125\frac{1}{2}$, being a per centage of 0·79 or 4·5ths nearly; and a mortality from puerperal fever of half the amount, viz., 1 in 251, or 0·39 per cent.

In October, 1844, the hospital was removed to the house which has been in continued occupation to the present time. This house is less favourably circumstanced as to its surroundings than was the former. It is situated in a narrow street, about 25 feet wide, in a poor and rather densely inhabited neighbourhood, and the ground on which it stands is rather low.

It consists of six rooms. On the ground floor is a board-room to the front, and behind it a kitchen; on the first floor a small apartment to the rear, in which are two delivering couches; and to the front, an apartment or ward in which are four beds for the reception of patients after delivery, and during convalescence.

On the upper or second floor are also two rooms; one to the rear occupied by the resident midwife, and another to the front, in which are four beds for the reception of patients.

Each of the wards, in which are four beds, is lighted by two windows, with a louvred pane in the upper sash of each. The door of each is removed from the hinges as in the former hospital; and the bedsteads and bedding as before. Behind this house or hospital, if it be worthy of that appellation, is a small yard, in which are a wash-house, ash-pit, privy, and house for the storage of straw, but the drainage and sewerage are by no means perfect. These details, which may appear to some tedious or trifling, are given, because a knowledge of them is necessary for a due appreciation of the results.

Into this hospital, from October, 1844, to this day, that is during a period of twenty-three years, there have been received and delivered 2,656 women. Of these nine have died, two of that number, of puerperal fever in the form of puerperal hysteritis, being a total mortality of 1 in $295\frac{1}{9}$; or a per-centage of deaths of 0·33, and a mortality from puerperal fever of 1 in 1,328, being a very small fraction indeed.

It will have been seen that in the first hospital where two

apartments only were devoted to the immediate use of the patients, eight beds were grouped together in a single ward; and that in the present hospital three apartments are available for their use, so that the same number of beds is divided between two wards; and it will be noticed, as a significant fact, that whereas the mortality from puerperal fever was, in the first hospital, 1 in 251, during a period of six years and six months, the mortality from the same cause has been, in the present one, only 1 in 1,328, during a period of twenty-three years.

In this, as in larger hospitals, and especially in Lying-in Hospitals, the number of patients together under treatment has varied greatly; there have been occasions when all the beds were occupied at the same time; and once or twice it has been found necessary to receive even more than the proper number; generally there have been only one, two, or three in hospital at the same time, and not unfrequently the hospital has been for some days, or a week, or even longer, completely empty.

This arises as well from the system under which the patients are admitted, as from the nature of the cases. They acquire their claim on the hospital by tickets of admission, which they obtain during their pregnancy from the subscribers to the hospital, who receive one ticket of admission for each sum of 10s. which they contribute. With these the women come to the hospital when their labour commences, and they must be received.

The annual admissions have varied from 79 (the smallest number within a full hospital year) to 152. The largest number of deaths from all causes that has taken place within any one year is three; and this annual mortality has occurred twice—in the years 1842 and 1860; the other deaths took place singly in different years. There was one period of six years, in which 566 women were delivered without the loss of one of the number from any cause; and another interval of four years similarly favoured, during which 558 women were delivered. This last period included three years, in which there was a comparatively large number of deliveries—in 1862, 142; in 1863, 150; and in 1864, 152.

The first death from puerperal fever, which was indeed the first death that occurred, took place in September, 1841, the second in January, 1842, the third in August, 1843, the fourth in January, 1860, and the fifth in May, 1866. Thus it is seen that the hospital had been open more than three years before this disease proved fatal in a single instance; and that there was an interval of more

than sixteen years, from August, 1843, to January, 1860, during which 1,811 women were delivered, without a death from this cause.

I have presented the various aspects under which these statistics may be viewed, as I have given details of construction and arrangement, because mere numerical results, unless thus accompanied and guarded, have little practical value in the way of either warning or example. To complete what may be required in this way, it may be added that the town of Waterford contains about 28,000 inhabitants, a large proportion of whom are very poor; that it is not remarkable for being very healthy, and that it generally comes in for a full share of the zymotic diseases which afflict Ireland, as well puerperal as other. Indeed puerperal fever has prevailed through the town, during years, in which the hospital was nearly or altogether free from it.

After what has been said, it is probably not necessary to do more than touch on the leading reasons why an hospital so situated, not distinguished by external hygienic advantages, and ministering to the poorest of a needy population, should have been favoured during a period of nearly thirty years, and notably during the last twenty-three years, with such a general exemption from the scourge, which has marred the usefulness of other large and magnificent institutions, enjoying advantages of various kinds, in which this small hospital, if it be worthy of such a name, is deficient.

In the opinion of some, the comparatively small size of the town may have a favourable effect, because the difficulty of maintaining health, and of escaping from disease, under circumstances which favour its invasion, as in the case of parturient women, is *cæteris paribus*, increased as the population becomes massed together. But the causes, more directly influential in this instance, will, no doubt, be found:—1st, In the small size of the hospital and of its wards, or rather in the small number of patients which they receive at the same time. 2nd, In the fact, that the hospital is periodically empty. 3rd, In the delivery of the women on beds, and in an apartment other than those occupied by them during convalescence: an arrangement which becomes possible only in a small establishment with wards immediately adjacent. Lastly, In the precautions by free ventilation, and the nature of the bedsteads and bedding, to prevent or dissipate the fomites of puerperal disease.

On a review of these conditions, in order to decide how far they may be suitable for adoption elsewhere, some, such as louvred window panes, open doorways, straw beds, and uncurtained bedsteads, might not be readily submitted to among a population less hardy,

and less accustomed to privation than ours. But the principles which they exemplify, and which of course are well known and of general application, must be kept in view, and enforced with whatever modifications of details may be found inevitable, if puerperal disease is to be avoided.

It may also be thought, that however great the sanitary advantages derivable from a small or cottage hospital, such a structure is not economical, looking to the accommodation it affords; nor could the principle be carried into operation, so as to meet the more extended requirements of a large community. With reference to the first objection it may be remarked, that an inspection of the annual reports of the hospital, for the last ten years, shows that within that period 1,269 women have been delivered, at an average annual expense for each of 15s. 9d., including the cost of baby clothes. The total average annual outlay for the same years has been £98; of this sum, more than half has been absorbed by the rent of the house, £12, and by the payment of the hospital staff, which consists of a resident midwife at £25, and a servant at £13 10s., board wages, in all £50 10s.; which constitutes an unvarying outlay quite independent of the number of patients admitted. Now during the ten years in question, the annual admissions have varied from 152 to 114. If then we take the first number as a measure of the capability of the hospital, it is evident that a much larger number of women might have been admitted with a corresponding diminution of the average expense for each, as the unvarying outlay, which constitutes half that expense, would have been divisible among a larger number of inmates.

Thus during the years in which the largest numbers of women—viz., 152 and 150—were admitted, the average expense for each woman was 13s. 6d., and 11s. 6d., respectively. If then, the wants of a district required, or it were desirable for educational or other influential reasons, to bring together, or rather into close proximity, a larger, nay a much larger number of patients, this could be done with a due regard to economy, and without sacrificing the principle of segregating them into small houses and small wards; wherever such houses could be found, or built immediately adjacent to each other.

For instance, were the requirements of Waterford greater, one or more houses, precisely similar to that now occupied, might be rented immediately adjoining, at the same rent of £12 for each. These would give an additional accommodation of twelve beds each,

as the apartment used for a board-room in the present hospital, might, in each adjoining house, be occupied as a ward; one board-room being sufficient for two or three, or more adjoining hospitals. Thus two such houses would afford twenty beds, and so on in proportion. Nor would the advantages peculiar to such a mode of construction be endangered by immediate proximity; provided no interior communication were permitted between the several buildings. One resident midwife, assisted, as she probably would be, by pupils, male or female, would also be found sufficient for twenty beds, thus further diminishing the average cost of each.

Again, if a rent of £12 be taken to represent a building capital of £150 or £170, it is evident that an outlay of about £300 or £340, might be made to give accommodation for twenty patients, or indeed for more, as constructions, especially intended for hospital purposes, would certainly give more accommodation within the same space, and be more convenient than dwelling-houses converted to the same uses. Such a building, or a row of such buildings, might be rented or constructed in the poorest neighbourhoods, where they would be most needed, and where their very proximity would itself be a great advantage to those for whose use they are chiefly and primarily intended. This last consideration is also an additional inducement, especially in large cities, for dividing hospital relief of this kind, provided sufficient accommodation be grouped together in each chosen locality, to meet the wants of the neighbourhood, and to present a field sufficiently large, to afford the experience necessary for educational requirements, with the consideration due to the convenience of the medical attendants and teachers.

Subjoined is a recapitulation of the statistics already given, with the addition of some others likely to prove interesting.

PRESENTATIONS.

Vertex,	-	-	-	-	3,271
Vertex with hand,	-	-	-	-	18
Face,	-	-	-	-	11
Upper extremities,	-	-	-	-	8
Lower extremities,	-	-	-	-	88
Funis,	-	-	-	-	9
Placenta,	-	-	-	-	4
Head and feet,	-	-	-	-	1
Hand and foot,	-	-	-	-	1
Not specified,	-	-	-	-	47

 3,458

OPERATIONS.

Embryulcia,	-	-	-	-	15
Forceps,	-	-	-	-	17
Turning,	-	-	-	-	7
					<hr/>
					39

CAUSES OF DEATH.

Puerperal fever,	-	-	-	5
Rupture of uterus,	-	-	-	5
Hemorrhage,	-	-	-	1
Collapse or exhaustion,	-	-	-	1
Convulsions,	-	-	-	1
Spasmodic cholera,	-	-	-	1
Chronic broncho-pneumonia,	-	-	-	1
				<hr/>
				15

With respect to the above summaries it may be stated that the forceps has probably been used more frequently than is recorded in the hospital register. The number of deaths from rupture of the uterus is comparatively large; the rupture was, however, in all the cases, spontaneous, and, in one, if not two instances, the sufferers were brought to the hospital in a dying state, having obviously sustained the lesion before admission. The greater number of these cases also occurred many years since, when the axiom that "meddlesome midwifery is bad," and the principle of trusting to nature had, perhaps, an undue influence over practice. Were similar cases met with now, the event would probably be different, at least in some of them.

BIRTHS.

	Born Alive.	Still-born.	Total.
Males,	- 1,712	- 95	- 1,807
Females,	- 1,593	- 58	- 1,651
	<hr/>	<hr/>	
	3,305	153	
	153		
	<hr/>		
Total births,	3,458		
Women delivered,	3,409		
	<hr/>		
Twin cases,	- 49		

ART. XVI.—*Remarks on a Case, illustrative of some Points of Difference between Sycosis Parasitica and Impetigo Sycosiformis.*

By T. W. BELCHER, M.D.Dubl., F.K. & Q.C.P.I.; Physician to the Dublin Dispensary for Diseases of the Skin; &c.

SEVERAL months ago, during the severe weather which was felt so much in Dublin, a gentleman consulted me, on the recommendation of his ordinary physician, about a disagreeable looking eruption on his face. The disease was limited to the parts habitually shaven every day by those who do not wear their beards. It covered the chin, the upper lip, and part of each cheek; but did not extend under the chin, or in any other direction. At the time of his first visit to me, he stated that he had had this eruption before; that it commenced with an affection of a small part of the skin only; and that thence it had extended until it reached the condition in which I saw it. This condition was as follows:—Around the roots of the hairs were plainly to be seen small conical pustules. These were particularly observed round the roots of the mutilated or stunted hairs of three or four days growth, which had started into existence by reason of his having been obliged to dispense with the use of the razor. The skin presented a dark red appearance, partly, I was informed, the remains of a former attack; and there was much inflammation of the subcutaneous structures, as evidenced by heat, tense swelling, and smarting pain. The patient's general health was good; he lived a few miles from town, spent several hours daily in a town office, to and from which it was his custom to walk, when the weather permitted him to do so. His habits were temperate; and he attributed the attack to the irritation caused by shaving, and to cold.

He was advised to use an anodyne lotion consisting of equal parts of spirit of chloroform and glycerine; and to take forty minims of Neligan's ioduretted solution of iodide of potassium and arsenic^a thrice daily on a full stomach.

At his next visit, five days afterwards, the inflammatory symptoms had considerably subsided, but yet the eruption remained as before, plus some brownish-grey scabs and crusts. Hebra's solution or tincture, to which I have frequently referred in former papers in this Journal, was now directed to be applied, and cleaned off by

^a Diseases of the Skin, Second Edition, 1866, p. 269.

poulticing. Four days later, Neligan's solution having been all along continued, the disease had not improved as I should have wished, so I advised the use of an ointment containing calomel, cold cream, and chloroform (30 grains, 1 ounce, and 20 minims, respectively); also a subacetate of lead lotion (1 dram of liquor plumbi to 12 ounces of rose-water). He was directed to wash the surface with equal parts of new milk and the lead lotion; and when poulticing, to saturate the poultice with lead lotion; also to continue the internal medicine as before. I saw him again in a week. He was now very much better in every way; the remedies last mentioned were advised to be continued; and in two days after, when he last consulted me, I made the following note:—"In this case there was considerable swelling of the tissues, and induration round the pustules; from each of which grew a thick bent hair." I may add that I have since seen this gentleman looking quite well, save that a slightly red stain remains on those parts of the skin on which the disease had been situated.

The *diagnosis* of this case is the point to which I wish particularly to direct attention. It was manifestly either one of Sycosis, or Impetigo Sycosiformis. The former is by most modern dermatologists considered a parasitic disease; while the latter is a variety of impetigo closely resembling sycosis. According to others, again, the two are identical; while, according to Dr. M'Call Anderson, the variety of impetigo just referred to is nothing more than the affection termed by him, in his work on Eczema, *Eczema Pilare Faciei*.

Notwithstanding the incontestable fact, in the opinion of some, that a parasite does exist, and can be seen in Sycosis, and that its presence is the essence and cause of the disease, others are found who deny its invariable presence in, and therefore its necessary connexion with Sycosis; while there is weighty authority to favour the opinion that the alleged vegetable fungi are entirely a myth.

Dr. Neligan's opinion I give in his own words, from the second edition of his treatise on *Diseases of the Skin*, p. 417:—"As regards the appearance of the eruption, in one of its stages it certainly bears much resemblance to acne, in being more or less pustular, but the pustules which are present are, in my opinion, the result of irritative inflammation caused by the existence of a parasitic vegetable production, first described by Gruby, and since the publication of of his observations in 1842, by others also. As the result of repeated microscopic examination I fully coincide with M. Gruby

and Dr. Hughes Bennett as to the existence of this parasitic cryptogamic plant in Sycosis." Of this parasite—the microsporon mentagrophytes, Dr. Neligan gives the following account from M. Gruby (p. 419):—"On examining the crusts or scabs under the microscope they are seen to be composed of epidermic cells; but a microscopic examination of the hair demonstrates that the entire of that part of it which is inserted in the skin is surrounded by cryptogamic plants, which form a layer between the sheath of the hair and the hair itself, so that the hair is placed, as it were, in a cryptogamic sheath, just as a finger in a glove. But it is a remarkable fact that the parasitic growths never extend above the surface of the cutaneous epidermis; they have their origin in the matrix of the hair, and in the cellules of which its sheath is composed, and they increase so as to envelope the portion of the hair inserted in the skin. The *sporules* are almost innumerable in every part of this sheath, and are firmly adherent both to it and to the hair itself, so that it is difficult to separate them without tearing the sheath."

Mr. Erasmus Wilson, whose opinion is entitled to the greatest weight, describes Gruby's discoveries above noted, and thus writes:—"Gustav Simon adds his testimony to that of Gruby, in favour of the vegetable pathology of sycosis. For my own part I have failed to discover these vegetable fungi, and, for several reasons, entirely disbelieve in their existence."—(*Diseases of the Skin*, Fifth Edition, p. 714).

M. Bazin looks on this affection as a variety of ring-worm; and with him agrees the eminent French writer, M. Hardy, who calls it "trichophytie sycosique," looks on the parasite as "un trichophyton altéré;" and thus lays down the principles of diagnosis between sycosis and impetigo:—"Dans le sycosis les tubercles sont isolés et s'accompagnent de gonflement sous-cutané, au dessous des croûtes on trouve des ulcérations, quelquefois même des fongosités, et les poils faciles à extraire présentent au microscope des altérations caractéristiques; dans l'impetigo, au contraire, les croûtes sont large, étendues, sans gonflement sous-cutané persistant, les poils sont adhérents et ne présentent au microscope aucune altération."—(*Leçons sur les Maladies de la Peau*. Paris, 1863. Edit. II.)

M. Hardy is of opinion that its single efficient cause is contagion, and that it is frequently transmitted by the use of the razor.

The opinion of that eminent dermatologist, Professor Hebra, of Vienna, does not coincide with that of Hardy. Mr. Nayler, of

London, noticed this fact in connexion with his own view, and wrote as follows:—"My own observation of the disease, in so far as it relates to microscopical inquiry, has led me to the belief that, in this country at least, sycosis is seldom attended by a parasite; and I quite share the opinion of Hebra, that the presence of a fungus should be considered accidental, and not an essential condition of the complaint."—(Nayler, *Diseases of the Skin*, Lond., 1866, p. 194).

That the absence of the fungus is not conclusive against the existence of parasitic disease in sycosis is maintained by Dr. T. Fox, who says:—"It is probable that the fungus, which is the cause of the primary irritation, is more or less destroyed by the pus which forms in the follicle, the tissues, nevertheless, continuing inflamed, in consequence of the peculiar structure of the part."—(*Skin Diseases*, p. 258).

Within the last few days, Dr. M'Call Anderson, has published a second edition of his, in my opinion, very excellent monograph on Eczema. Premising, that he holds impetigo to be merely a pustular variety of eczema, I may mention that he gives a table of differences between sycosis, and what he terms eczema pilare faciei (the impetigo sycosiformis of other authors). As this table is just to the point, and as it moreover serves to intimate his view on the parasitic question, I make no apology for giving it from page 137 of his book:—

"ECZEMA PILARE FACIEI.

"1. Very common in this country.

"2. A pustular disease only.

"3. No trace of herpes circinatus either on the affected parts or in other localities.

"4. Not contagious.

"5. Hairs healthy, and adhere firmly, so that epilation causes pain, unless much suppuration has occurred at their roots.

"6. No parasite to be detected."

"SYCOSIS PARASITICA.

"1. Not so common in this country.

"2 Pustules, tubercles, and large fleshy indurations detected when disease fully established.

"3. Rings of herpes circinatus (ring-worm of body), sometimes detected amongst the hairs, and round the front of the neck, or on the wrists, arms, or other parts of the body.

"4. Contagious, and often history of contagion.

"5. Hairs brittle, broken or twisted; have lost their glistening appearance, are thick and, at times, white; can be extracted with perfect ease and without pain, and come away without their bulbs.

"6. Fungus (trichophyton tonsurans) detected in some of the hairs and scales."

Now as to the conclusion of my case. The pustules, indurations, and other signs, and the history of the case, inclined me to believe it to be one of parasitic sycosis.

At my last visit, I requested the patient to send me a couple of hairs from his beard. He wrote to me as follows:—"I had laid by two of the hairs as requested, but found to-day one of them was lost. It was too painful to attempt at the time to pull out any more; and I fear nothing can be gleaned from the one left, as it is quite dried up. I am now pretty much recovered, and expect in a few days to be all right again."

I examined this hair under the microscope, comparing it with the plates of *Microsporon Mentagrophytes* in Neligan's Atlas, the drawings of which, I may add, were made by Dr. Steele from a microscopic examination of a hair belonging to a patient of Dr. Neligan. I could not arrive at any satisfactory result, and having availed myself of the skilled assistance of Dr. Hewitt, of York-street, who kindly examined the hair for me, and allowed me to examine it with him, I ascertained his opinion, which was this:—"The hair was surrounded at the base by altered epithelium, and decomposed follicular secretion. There was not any evidence of the microsporon mentagrophytes." This being so, these two opinions were open to me:—1. Assuming, with Hardy, and some others, that sycosis is necessarily parasitic, to think that the case may have been one of sycosis, for the reason assigned by Dr. Fox (*vide supra*); or, assuming with Hebra and others, that the disease is only accidentally parasitic, to think that this was a non-parasitic case of true sycosis. 2. To look on it as a case of impetigo sycosiformis. I confess, I incline to the latter opinion, while I readily admit that much can be said for the former.

ART. XVII.—*A Case of Operation for Cleft Palate on a Child, aged Five Years, with Success.* By F. A. PURCELL, M.D., M.R.C.S.; Physician to the Cork Fever Hospital, and Secretary of the Cork Medical Society.

JOHN CONNELL, aged five years, a fine, large, muscular child, the youngest of seven, five of whom died, which makes the parents most anxious about this one; on attempting to talk, he mumbles his words, unable to articulate, and can only be understood by his

parents. The soft palate is cleft from top to bottom, exactly in its mesial line, the mucous membrane is continuous over the hard palate, the edges of which are not in perfect apposition, a slight fissure existing in the bone, but only apparent to the touch; the gap in the soft palate observed when the mouth is opened being lozenge shaped, the sides at the centre of the fissure retract into the fauces on each side, and if the child cried, the portions of the palate become drawn so much to each side, as to present no palate whatever, here showing the action of the tensor palati and pharyngei muscles.

I determined to operate; accordingly, on Wednesday, July 18th, 1866, with the kind assistance of Drs. Johnston, Shinkwin, and N. J. Hobart, all of whom agreed that the case was a fair one for operation, we proceeded to work in my study; our patient, wonderfully strong, was anything but quiet, and determined to give every resistance. He was well secured by encircling legs, arms, and body firmly in sheets, and placed sitting on a chair; we allowed the father to be present, to exert his influence over him; a pillow lay across the back of the chair, on which the head was firmly held by Dr. Shinkwin from behind. I sat on a chair opposite him, with my back to the light; during the operation the head was turned to one side or the other, as required, so as to get as much light as possible on the part; the mouth was held open by means of one cork, with a fold or two of linen to prevent its being cut through by the teeth; the cork was long, so as to give a purchase, and I may here observe, as we only used one cork, that it was changed to one side or the other of the mouth, generally to the side opposite to the one operated on throughout. I used a long forceps, half an inch of the end curved nearly at right angles, having claw tops, the rest straight; with this I secured the left uvula, and passed at its base from before backwards, the needle armed with a silk ligature; this needle was curved, and the eye was two-fifths of an inch from the point, which I shall refer to again; all my ligatures were cut a yard long and waxed; the point of the needle brought to view posteriorly, one thread was seized with the forceps, and drawn out of the mouth, the needle then withdrawn over the other end, the two ends of the ligature were knotted; this I call the tension ligature (an improvement due to one of our Dublin surgeons, Mr. L'Estrange), the same was passed at the base of the right uvula; the left palate was now put on the stretch by pulling its tension ligature with the left hand to the right side of the mouth,

and determining with my index finger the position of the hamular process, I transfixed the palate perpendicularly and close to the hamular process from before backwards, according to Pollock's plan, using his spear-pointed double-edged knife, which is by the curve of its shank beautifully adapted for the division of the tensor palati muscle; passing the knife a little upwards and inwards, elevating then the hand, so as to cut the posterior fibres, I withdrew it; some oozing of blood followed; the palate became relaxed, thereby showing the muscle was cut. Our patient was now allowed breathing time. The right palate was made tense in the same way, and the knife this time in the left hand, transfixed and cut the tensor palati of that side; considerable oozing of florid blood here followed, which made me anxious for the moment, but it soon stopped; we now found by gently drawing on the tension ligatures of both sides that the edges of the fissure came nicely in apposition, thereby not requiring the division of the palatopharyngeal muscles; this completed the first part of the operation. The second part—the paring of the edges—was long and tedious; using still Pollock's knife; the movement of the tongue being quite uncontrollable, the constant crying, and the exertions that each of my assistants were put to to keep the child still, and to keep the mouth open, were quite sufficient to impress each with the difficulty of operating on a child so young. The paring finished and time allowed for all oozing to cease, as also for my assistants to recover, we proceeded to the third stage—that of passing the ligatures; the mouth opened, and the fauces well mopped out, making tense the left palate by traction of its tension ligature, the needle armed, was passed close up to the edge of the hard palate from before backwards, and pushed on until the eye with the threads came to view, one of which was seized hold of with the forceps and drawn through and out of the mouth, the needle then withdrawn over the other end, the same as the tension ligatures were passed before; this then was our first single ligature passed only on the one side of the fissure. On the right side, and directly opposite the other, the needle armed was passed, the eye coming to view with the thread, the entire noose was seized with the forceps and drawn forward and placed over my little finger, the needle then withdrawn; into this noose the posterior thread of the single ligature of the opposite side was passed, and this noose, acting as an eye, drew the single ligature through the right side from behind forwards. The ligature was now drawn from side to side, to test

its proper insertion. I forgot to state that a knot was placed on the anterior thread of the ligature when it was passed through the left side, so as to mark the anterior from the posterior; as also, one knot indicated ligature No. 1, two knots on the second indicated ligature No. 2, ditto No. 3. Knots to correspond were placed on the other end of the ligatures when drawn through the right side. Ligature No. 2 was passed in the same way, about half an inch or less below the first; the child, by its exertions, defeated me in passing No. 3 through the sides of the uvula; the part being flaccid and giving way before the point of the needle, we determined not to mind it. I here removed the tension ligatures, and proceeded to tie the others. The way the ligatures were tied was by placing a slip knot of one thread over the other and running it down, but not too tight; this brought the edges of the fissure together, and over the slip knot was placed a simple knot, which quite secured the knots from giving; the edges of the fissure were in nice apposition, and the child now swallowed some sops of water and articulated clearly and distinctly, much to the gratification of its father. The exertion of the child did in no wise exhaust it; but my three assistants, to whom I can never return sufficient thanks, were completely done up. My little patient was allowed to go home, with directions to keep him quiet, to get nothing but drinks, with no solid food.

Thursday morning, 19th.—Slept well during the night; edges of the fissure in apposition, parts inflamed and œdematous; child talks fluently; the lower portion of uvula lies in apposition, but apparently not united.

Thursday evening.—Dr. Johnston saw the child this evening; he notices an islet hole at the apex, directly under the edge of the hard palate; the rest in apposition, except portion of the uvula, which will evidently not unite; tongue furred. Gave gr. iii. of calomel; to take a teaspoonful of castor oil in the morning.

Friday, 30th.—Child improved; craving food; the edges not united above at the apex for about the one-eighth of an inch; between the ligatures perfect adhesion; the uvula free.

The parts gradually got well, and I removed, on Sunday morning, the ligatures with rather some difficulty. The weather was very warm, and the child was allowed to drink freely of cold iced water. I determined not in any way to interfere with the ununited portions for the present. He talks fluently and distinctly. The operation is so far successful that I am sanguine

of making a perfect palate. The uvula portion has greatly shrivelled up, and if allowed to remain as it is, would not be bad. The hole at the apex admits freely the end of a drawing lead-pencil; this will, I have no doubt, close by the use of the nitrate of silver stick.

The case suggests many things to me—firstly, I quite agree with Mr. Pollock, that under fifteen years of age I would not operate, unless compelled so to do, as no one can imagine the labour to overcome the struggles of this child; and with any other assistants but those I had, I should have desisted. In a child the tongue is for ever in motion and in the way, and an assistant's hand while using a depressor is completely so; the movement of the tongue causes great delay in manipulating the instruments. Pollock's knife is admirable, but I would like two, one the present size, and the other with a narrow blade; the forceps I used could not be worse; one with a gentle curve of the blades, with a slide like Charrierès to close them, would be preferable, and would hold the mucous surface of the edges. My needle had the eye two-fifths of an inch from its point; the difficulty was in trying to bring the eye to view; the point was apt to stick either into the back or sides of the pharynx, and required great care; the eye then should be as near the point as possible, and the needle fine. It is doubtful to my mind but that silver wire is preferable to silk, except in a child; at all events the two upper ligatures might be silver, and the lower one silk, which may be less in danger of irritating the epiglottis. There is little danger of the sutures passing backwards.

Some improvement might be suggested for keeping the jaws apart—as a cork, such as I used, is rather clumsy.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Dr. Chapman's Vaso-motor Therapeutics; Neuropathy, or Vaso-motor Therapeutics; a New Method of Treating Disease through the Agency of the Nervous System. By JOHN CHAPMAN, M.D., M.R.C.P. *The Journal of Mental Science*, April, 1865.

Diarrhea and Cholera, their Nature, Origin, and Treatment, through the Agency of the Nervous System. By JOHN CHAPMAN, M.D., M.R.C.P.; M.R.C.S. Second Edition. London: Trübner and Co. 1866. Pp. 248.

MOST of our readers have probably seen in the weekly journals occasional references to Dr. Chapman's views. We believe them at least deserving of careful consideration, and it has happened to us to discover that they are sometimes but very indistinctly apprehended by those whose acquaintance with them has been made through these fragmentary notices. We therefore propose to give, as clearly as we can, in the space at our command, an exposition of them, offering as we proceed some observations which their consideration has suggested to us.

The most obvious purpose subserved by the nervous system in man is to bring him into relation with things outside him, to enable him to receive impressions from them and to exercise an influence over them. The performance of this function in health and its derangements in illness have therefore attracted attention most prominently; and under diseases of the nervous system have come to be included those only in which motion, sensation, or intellectuation was visibly disturbed. It was believed, indeed, that the operations which were incessantly going on within his body—nutrition, secretion, and visceral muscular action—were in some way under the influence of the nervous centres; but our knowledge on the subject was vague and amounted to little more than conjecture; now, however, minute anatomical investigations, experiments, and clinical observations, the true interpretation of which had been previously overlooked, have given us information,

far, indeed, from being as precise as we could wish, but still sufficient to guide further inquiry, and even to justify us in forming provisional theories as to the nature of some diseases, and as to the direction which our plans of treatment should take. Those who have made themselves sufficiently acquainted with recent investigations into the physiology of the nervous system, have been already guided to important discoveries in pathology and therapeutics; such theorizing, therefore, if based on adequate knowledge, is not useless, nor is it unsafe, provided we remember that our information on many points is yet so defective, and the data on which we proceed so doubtful, that no matter how logically we reason, our conclusions must inherit the uncertainty of the premises, and we must be prepared to abandon them if they fail us when actually tried; for it has unfortunately been too often the case that results confidently anticipated have, to the eyes of the original observer, appeared to occur in a manner which subsequent experience has failed to confirm, and which, had he been sufficiently alive to the inherent uncertainty of his conclusions, would not have impressed him. No one who is at all conversant with the brilliant discoveries in physiology, which have been made during the last few years, can entirely resist the temptation of using them to help him to the solution of obscure problems in pathology, and to guide him to some safe principle in treatment; but at present they can only show him the direction in which to look, they cannot tell him what he is to see; and if we expect infallible guidance from them we will only fall into the error of persisting in theoretic treatment, an error which has already left its lamentable records in the history of medicine. Nor must we imagine, as Dr. Chapman seems to do, that with this one key we can unlock all the mysteries of disease. Poisons gain access to the body, and other agencies in various ways act upon it; but, according to his sweeping generalization, the more the effects of these are studied—

“The more convinced pathologists become that they are immediately dependent on morbid states of the nervous system, which is primarily affected—its departure from health being first denoted by a disorder of its own circulation, which subsequently originates those derangements of circulation of various kinds in various parts of the body, variously denominated as special diseases, according to their localities and peculiarities.”

With the view at first it would appear of acting only on the

prevertebral ganglia, and through them on the circulation in different parts of the body, Dr. Chapman began to apply hot water in some cases, and ice in others, to the spinal region. He obtained the results he anticipated, and some others as well. He applied heat along the spine of a feverish patient; the skin became comparatively cool, but it became moist at the same time. He applied heat between the scapulæ of a patient who had bronchitis; the amelioration of the symptoms led him to the conclusion that while the amount of blood in the inflamed membrane was lessened, secretion was increased, and contrariwise ice applied along the spine of a patient whose skin was cold and unduly moist, caused the surface to become warmer, and at the same time drier.

"The above-mentioned facts," he says, "and others to which I shall briefly refer, lead me to the conclusion that *all* secreting organs are supplied with nerves acting directly upon their constituent cells, which become active or passive according to the amount of nervous influence distributed to them; that their elective affinity for the particular elements of the blood which they separate from it, and the force of their attraction for blood on which to operate, are exclusively due to and dependent on that influence; that when that influence is exerted in a maximum degree, the attractive force exerted by the gland-cells on the blood is so great that it counteracts and neutralizes the contractile force of the muscular coat of the arteries from which they derive the blood they require, and therefore, that while hyperemia of the nervous centres lessens the general blood-supply to the periphery of the body, by causing contraction or tonic spasm of the peripheral arteries, that same hyperemia generates and transmits to the gland-cells a preternaturally strong nervous influence, enabling them to draw copious currents of blood to themselves through their special arteries, notwithstanding that they are at the same time subject to the maximum of contractile force, and that the peripheral arteries generally are in a condition of anemic spasm."

This he offers only as a provisional explanation of the phenomena, and we certainly feel some difficulty in accepting it. If the gland-cells of the skin under stimulation from the nervous centres draw copious currents of blood to them for secretion, so must—as indeed Dr. Chapman specially mentions in another page—the ultimate cells which keep up the nutrition of the tissue; and if there be copious currents of blood and increased molecular change, we cannot conceive how the skin becomes cooler. The conclusions to which he has been led he finally embodies in the following propositions:—

"1. That the chief function of the sympathetic nervous system consists in regulating the diameters of the blood-vessels throughout the body.

"2. That when the sympathetic ganglia are in a state of maximum hyperemia the nervous effluence from them to the muscular coats of the arteries to which they are severally related stimulates them so excessively as to induce in them a condition of tonic spasm—a spasm so intense as to result in shutting off the blood altogether from a large proportion of the peripheral arteries.

"3. That when the sympathetic ganglia are in a state of maximum anemia the nervous effluence from them to the muscular coats of the arteries to which they are severally related becomes so extremely feeble that a condition resembling paralysis is induced; the muscular coats of the arteries become consequently extremely relaxed; and, as the blood flows in the direction of least resistance, the parts supplied by the arteries in question become suffused with blood to an excessive degree.

"4. That when the spinal cord is in a state of hyperemia, cramps of the involuntary muscles surrounding the alimentary tube as well as cramps, or even convulsions of the voluntary muscles, which are due to such hyperemia, are likely to ensue.

"5. That every gland and glandular follicle in the body is under the control of one motor nerve (which I call the *positive motor*) emerging from the cerebro-spinal system, and distributed to its secreting cells in order to regulate its functional activity; and of another motor nerve (which I call the *negative motor*) emerging from the sympathetic system, and distributed to its artery or arterial twig, in order to regulate its blood-supply.

"6. That in the same manner as glands are supplied with positive, as well as with negative, motor nerves, so, there is reason to believe, every tissue of the body is thus supplied, and is thus placed and sustained in a state of elective affinity for the elements of the blood requisite for its nourishment and functions.

"7. That the sympathetic ganglia and the spinal cord can be rendered hyperemic or anemic, artificially, by means of heat, in the one case, and cold in the other, applied along the spine.

"8. That by means of heat applied along the spine the general circulation may be lessened, the activity of the glandular system may be increased, and, in some cases, cramps of both the voluntary and involuntary muscles may be induced.

"9. That by means of cold applied along the spine the general circulation may be increased, the activity of the glandular system lessened, and cramps of both voluntary and involuntary muscles may be arrested or prevented."

It may be conceded, we think, that the first three of these propositions are in accordance with the results of experimental

investigation, though there is a difference of opinion among physiologists as to the real vaso-motor centres, and though some of the most distinguished place them in the spinal cord, or in the medulla oblongata, there can be no question that the nerve fibres, which transmit the influence to the vessels, pass through the prevertebral ganglia, and that destruction of these masses on the one hand, or galvanization of the nervous cords issuing from them on the other, permits a full current of blood or narrows the vessels. For the assertion in the fourth postulate that hyperemia of the spinal cord is likely to produce cramps of the involuntary muscles surrounding the alimentary canal, we are not aware that there exists any proof. All evidence goes, we think, the other way. "The cerebrum and spinal cord exert no influence of the kind," says Romberg.^a "Experimental irritation of the brain or cord produces no evident or constant effect on the movements of the intestines during life,"^b says Kirkes. We do not as yet know to what extent the sympathetic is connected with the cord, nor how far the former is dependent on the latter as the ultimate centre of the powers which appear to be its especial possession. Possibly, as we have just observed, some portion of the cerebro-spinal mass may prove the real centre of those vaso-motor nerves, which appear to have their origin in the prevertebral ganglia, and such, too, may be the case with the nerves which regulate the involuntary movements of the intestines; but the fact remains that while irritation of the solar plexus or of the vagus nerve produces peristaltic movements, irritation of the cord does not, and to a similar conclusion are we led by clinical observation. Diseased conditions of the cord produce paralysis or spasm of the rectum and of the bladder, which, through the sacral plexus, derive a *direct* supply from the cord, but exert no influence on the small intestine or the colon.

We have already mentioned the original observations which suggested to Dr. Chapman's mind the existence of nerves directly presiding over secretion and nutrition, and distinct from those which regulate the supply of blood. In this conclusion, however, he supports himself by the observations of Bernard, who found that while the sympathetic regulated the supply of blood to the sub-maxillary and parotid glands, their secretive activity depended on the chorda tympani and auriculo-temporal, and by the minute

^a Diseases of the Nervous System.—Sydenham Society's Translation, Vol. ii., page 10.

^b Handbook of Physiology, 5th edition, page 290.

microscopic investigations of Pflüger, who, in the case of the sub-maxillary, traced the filaments of the chorda tympani into the nuclei of the gland-cells; these views have indeed obtained the sanction of our most careful physiologists. It is admitted that while stimulation of the sympathetic, by constricting the blood-vessels, diminishes secretion, irritation of these other nerves is followed by dilatation of the vessels and increase of secretion. We would here remark, however, that Dr. Chapman, in his subsequent reasoning, has assumed these nerves to possess a power which, as far as we know, no experimenter has as yet attributed to them, that of augmenting secretion, and drawing an increased supply of blood to the tissue *in spite* of excitation of the sympathetic. Indeed, Bernard supposes that their action is inhibitory; that it is only through their power of paralysing the vaso-motor nerves they cause secretion. In this view of their action he is not supported by other physiologists; nevertheless, we have yet to look for evidence of their power to produce their effects, if the sympathetic is at the same time excited and the author's hypothesis requires this.

That hyperemia and anemia will produce respectively increase or diminution of the functional activity of these centres, may be admitted; that heat and cold applied along the spine will produce such hyperemia or anemia is a proposition of which, we need hardly say, we can have no proof except that derived from observing how distant organs perform their functions during the time these agents are applied. Beforehand it certainly seems improbable that the spinal cord, shut up within its bony case or the prevertebral ganglia, with the heads of the ribs and a mass of muscles interposed between them and an ice bag, and with the warm viscera of the thorax and abdomen exercising a counteracting influence on their inner side, could have the circulation of blood within them materially affected by any amount of cold short of that which would prove injurious to the external parts. However, if results are obtained by other physicians at all confirmatory of Dr. Chapman's observations, we must not allow the apparent improbability to prevent our acceptance of his conclusions.

We now come to consider the author's reading of the phenomena of cholera in the light of these propositions; he says:—

“6. The pathological doctrine, the truth of which I hope to prove to the satisfaction of every competent judge, may be concisely embodied in the four following propositions:—

- (I.) All the phenomena of cholera are due to simultaneous hyperæmia of the spinal cord and of the sympathetic nervous system.
- (II.) All the phenomena of cholera are naturally divisible into two classes, accordingly as they are referrible to the spinal cord, or to the sympathetic ganglia as their cause.
- (III.) All active or positive phenomena are due to hyperæmia of the spinal cord.
- (IV.) All passive or negative phenomena are due to hyperæmia of the sympathetic ganglia.

"7. The symptoms of cholera are ranged in the following lists as positive or negative phenomena according to my conception of their proximate cause:—

POSITIVE PHENOMENA.

- a.* Abnormally copious and pale urine.
- b.* Albuminous urine.
- c.* Abundant secretion of bile.
- d.* Abundant secretion of pancreatic juice.
- e.* Borborygmi.
- f.* Excessive activity of the mucous membrane and of all the glands of the alimentary canal.
- g.* Abnormally high temperature within the rectum.
- h.* Excessive activity of the mucous membrane of the gall ducts and gall bladder, of the pelves of the kidneys, and of the female genital organs.
- i.* Abdominal gripings.
- j.* Excessive expulsive activity of the stomach and bowels.
- k.* Simultaneous excessive activity of thoracic and abdominal muscles.
- l.* Sweat in all its grades of copiousness, and fluidity.
- m.* Derangements of sensibility.
- n.* Tremors.

NEGATIVE PHENOMENA.

- a.* Slight headache.
- b.* Deafness of various grades.
- c.* Tinnitus aurium.
- d.* Dizziness, slight faintness, syncope.
- e.* Drowsiness, sleeplessness.
- f.* Mental state.
- g.* Absence of tears, saliva, bile, and urine.
- h.* Short, struggling, and rapid respiration.
- i.* Cold breath.
- j.* Enfeeblement of the voice, aphonia.
- k.* Oppression and burning pain at precordia and left epigastric region.
- l.* Algide symptoms: Progressive changes in the visage, and in the colour, temperature, and general aspect of the skin.
- m.* Loss of cutaneous sensibility.
- n.* Serous exudation into the intestines.

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| <p><i>o.</i> Muscular twitchings.</p> <p><i>p.</i> Fixed, stoney expression of the face.</p> <p><i>q.</i> Tonic hardness of muscles.</p>
<p><i>r.</i> Tightness across the lower part of the chest.</p> <p><i>s.</i> Cramps and convulsions.</p> <p><i>t.</i> Extreme contraction of the urinary bladder.</p> <p><i>u.</i> Restlessness and tossing of the limbs to and fro.</p> | <p><i>o.</i> Epithelial exfoliation of the intestinal villi.</p> <p><i>p.</i> Enfeeblement and death of the voluntary muscles.</p> <p><i>q.</i> Enfeeblement and death of the involuntary muscles, cessation of discharges, secretion still continuing."</p> |
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The abnormally copious and pale urine and the albuminous character which it presents, in some cases, during the period of invasion, he considers caused by excessive stimulation of the secreting structure of the kidneys by the cerebro-spinal system, before the renal arteries have had their calibre contracted by hyperemia of the sympathetic ganglia; superabundant secretion of bile at the beginning of the attack, and the excessive flow of pancreatic secretion, which he supposes to take place, he attributes to the same cause, and extraordinary secretion of air within the bowels, giving rise to borborygmi, he has observed to occur when heat has been applied to the spine; the white flocculent matter found in choleraic stools and in the intestines after death, has been, by many observers, recognized as epithelial cells, and is, therefore, an evidence of excessive activity of the secreting structures of the mucous membrane, and this, according to the author's theory, similarly finds its explanation in the hyperemic condition of the cord; the gripings, the muscular twitchings, the tremors, the cramps, and the contraction of the bladder, are due to two conditions, the muscles are rendered anemic, and, therefore, unduly excitable, by the sympathetic constricting their arterial twigs, and they, therefore, respond the more readily to the stimulus which flows to them from the excited cord; the tightness across the lower part of the chest is mainly due to tonic spasm of the diaphragm. The aching and other uneasy feelings in the head, the drowsiness in some cases, and sleeplessness in others, are brought about by varying degrees of cerebral anemia, the result of hyperemia of those ganglia, from which are derived the vaso-motor nerves

which twine around the arteries of the brain; in the same manner the cutting off of the vascular supplies to the liver and kidneys, the author argues, soon puts a stop to the secretion of bile and urine, which the unwonted stimulus from the cord at first produced; but the lachrymal, the parotid, and the submaxillary glands deriving no supply from the cord, but instead, receiving in addition to sympathetic filaments, only cerebral nerves, are from the very beginning of the attack, in a condition unfavourable to secretion. Their supply of blood is lessened by the sympathetic, while the anemic brain fails to send them their usual amount of stimulation to secretion, hence tears and saliva are from the first arrested. Owing, in the same manner, to the undue activity of the sympathetic the vascular fibres of the bronchial tubes contract spasmodically and refuse to admit air, and the walls of the smaller pulmonary arteries obstruct the flow of blood, and so the respiration becomes short, struggling, and rapid; spasms of the cutaneous vessels gives rise to the paleness and coldness, and by depriving the blood in the veins of the vis a tergo, permits livid congestion to occur; the same arterial constriction, combined with "tonic spasm of the facial muscles," accounts for the cholera aspect; here, however, we do not quite see how the argument holds since the facial nerve is not a spinal one; and Dr. Chapman has specially mentioned the exemption from excitation of one of its branches, the chorda tympani, in accounting for the submaxillary gland not sharing in the stimulation to secretion felt by the other glands. One of the most striking phenomena of cholera remains to be accounted for, and we can hardly say that the explanation commends itself to our judgment:—

"42. (*n*) *Serous Exudation into the Intestines.*—The group of algide symptoms so pre-eminently observable in the skin, are present, and are produced in the same way, though in different degrees, if my hypothesis be correct, in every part of the body. But in the intestines special conditions obtain: as already explained, the positive motor nerves of the alimentary mucous membrane and intestinal glands being in extremely predominant and energetic action, a large amount of blood is drawn by them through the intestinal arteries, is passed through the glandular capillaries, and is forced into the intestinal veins. But while the venous blood generally is hindered from passing freely through the lungs, by contraction of the pulmonary arteries and bronchial tubes, that in the intestinal veins is arrested, simultaneously with the secretion of bile, by the intensely energetic action of the hepatic negative motor nerves, which, bringing the functions of the liver to a stand, prevent the passage of any blood through

it. Thus, while on the one hand the excessive secretive activity of the intestinal mucous membrane and glands is causing an excessive amount of blood to be compressed by the agency of their capillary force into the intestinal veins; on the other, the blood so forced into them having no normal exit, first distends them to the utmost, and then the serous, or most fluid part of it, oozes through them—their extremely thin walls being rendered still thinner, and therefore extraordinarily permeable, by the distention to which they are subject. Hence the exudation of the enormous amount of serous fluid which is discharged by cholera patients, which, as well as the œdema of the intestinal walls and the serous infiltration beneath the epithelial sheaths of the villi contributing to their exfoliation, is not only accounted for, but shown to be absolutely inevitable.”

Constriction of the hepatic artery can of course only arrest the secretion of bile by impairing the nutrition of the secreting cells; it is no uncommon thing for patients, within one or two hours of the beginning of their illness, to eject quarts of fluid from their bowels; is it possible for the nutrition of the liver to have become so profoundly altered in so short a period that though portal blood is brought to it, it cannot pass it on? Neither does Dr. Chapman offer any hypothesis to explain how it happens that the secreting cells of the liver enjoy none of that power of drawing to themselves the copious currents of blood, which, according to his theory, the secreting structures of the mucous membrane possess.

Some facts connected with cholera have yet to be noticed, which we think do point in the direction indicated by Dr. Chapman's theory. The occasional increase in the temperature of the body just before, and more frequently after death, looks like a returning current through the capillaries after the death of the nervous centres has permitted relaxation of the minute arterial twigs; the *post-mortem* muscular contractions too, which at times are noticed, seem to point to the supply of the muscles with something which temporarily restores their excitability; the early onset of rigor mortis is observable, just as was seen when the sympathetic had been violently stimulated by galvanism. He likewise draws attention to the fact that the causes which seem to influence the spread of cholera, and to expose individuals peculiarly to its attacks, are causes which are either known or may be reasonably supposed to produce abnormal susceptibility of the nervous centres, solar heat, wide ranges of temperature, malaria, fatigue of body, anxiety or depression of mind, intemperance, and the use of purgative medicines, which may set up

reflex irritation of the centres; these and other influences, which operate similarly, the author discusses in detail.

Such is his pathology; there are no well-authenticated records of changes being found after death confirmatory of his views. He says we must not expect them, as the condition is likely to pass off after death, so we are left to conjecture. We find a difficulty in accepting it as probable that hyperemia of the spinal cord would occur epidemically and never be accompanied by a similar condition of the brain. Certainly where the membranes are affected the cranial portion of the mass does not enjoy a similar immunity. Moreover, if we remember that the prevertebral ganglia send back true sympathetic fibres, which enter the ganglia on the posterior root, and also the anterior root of each spinal nerve, and some of which unquestionably are the vaso-motor nerves of the cord, hyperemia of the ganglia should prove curative of hyperemia of the cord. Besides this, in all diseases in which we know the cord is hyperemic, or in which its functional activity is increased, as the author supposes is so eminently the case in cholera, we find extreme susceptibility to manifest reflex phenomena, in tetanus and in the early stages of myelitis touching the extremities, the introduction of a catheter, or the administration of an enema, commonly provokes a convulsive seizure, but nothing of the kind has been observed in cholera.

A chapter on treatment, followed by a detail of cases, concludes the work. The distinctive characteristic of Dr. Chapman's treatment consists, of course, in the application of ice to the spine during the algide stage, and of heat, if required, to moderate the reaction in the secondary fever. The details of the treatment are explained at considerable length; attention to many auxiliary matters is insisted on, and without this, no one is justified in trying the plan recommended at all; for these, if unfortunately any of our readers have again to treat epidemic cholera, as sooner or later, no doubt, they will, we must refer them to the work itself. We have read over the cases of diarrhea narrated in one of the early chapters, as well as those of cholera in the concluding one. On others they may leave a stronger impression; to us the cases of diarrhea were not very convincing, as we have seen results as favourable follow confinement to bed, and restriction to arrowroot diet without treatment. The author's experience of cholera was gained at Southampton, under circumstances very unfavourable for the satisfactory trial of any treatment. According

to his own estimate, "nearly two-thirds of the patients treated by ice recovered; more than two-thirds of the patients submitted to ordinary treatment died." What induces us, however, to recommend that Dr. Chapman's treatment should have a more careful trial is not the results thus expressed in numbers, but the circumstance that symptoms seemed, according to his notes, to be often distinctly under control by the spinal ice-bag, and in the case of cerebro-spinal meningitis, lately recorded by Mr. Morgan, it certainly appeared, as far as could be inferred from symptoms, to exercise some influence over the circulation, whether this influence is exerted in the manner Dr. Chapman supposes, is another question. By means of his spine-bags he has supplied us with an efficient mode for applying heat and cold which we formerly did not possess. We purpose trying their effects in some of the simpler forms of disease, and we recommend those of our readers who have an opportunity to do the same. The work on Cholera is well and clearly written; and the reader finds no difficulty in following the author in his attempt to unravel the obscure phenomena of the disease.

1. *Traité de Medecine Operatoire, Bandages and Appareils.* Par Le Docteur CH. SEDILLOT. 2 Vols. 8vo. Paris, 1865. Bailliére. Illustrated.
2. *Manual of Surgical Operations.* By JOSEPH BELL, F.R.C.S. Edinburgh: Maclachlan & Stewart. Pp. 267, small 8vo. Illustrated.
3. *Surgical Observations, with Cases and Operations.* By J. MASON WARREN, M.D., Surgeon to the Massachusetts General Hospital. Boston: 1867. Ticknor & Fields. 8vo. pp. 632. Illustrated.

IN this third, and much enlarged, edition of *Sedillot's Operative Surgery*, many additions and improvements will be found over those published in 1839 and 1853. In the first place, the illustrations are enhanced in value by chromo-graphic colouring of the arteries and veins—an improvement which speaks to the eye, and needs no words to commend it. Some of the woodcuts, however, ought to have been replaced by more modern work; for example,

Fig. 192, where we have a picture of an amputation, which is scarcely surpassed for ludicrous absurdity by the similar scene in Scultetus. A patient, with placid countenance, seems borne in mid air (for he rests on nothing), in a sitting posture, over a tub, whose ancient staves are scarce held together by a few indifferent hoops. Round him, in various postures, are six *aides*, of frightfully intense countenances, and hair *a la Joinville*. The operator, in an evening coat, and white Russia ducks, tightly strapped over the smallest of boots, is ineffectually endeavouring to kneel (the ducks make it impossible). There is no sign of chloroform—internal evidence of the antiquity of the scene, if the costume alone did not afford it. We cannot conceive the good of retaining such illustrations. The eight figures are crowded into a woodcut $3\frac{1}{4}$ inches by $2\frac{1}{2}$. As a rule, however, the illustrations, although very small, are clear and good. Many insignificant operations have been omitted, as also many of those slight variations in operative procedure, on which the French especially delight to found claims for originality. This is a move in the right direction; for assuredly no sensible man should care to have an operation named after himself, on the ground of its varying in some trifling manner from a former method. Such pettiness is deserving of discouragement, and we are glad to see some evidence of a determination in M. Sedillot to concentrate his labour on more important matter. In the department of minor surgery there is much that is new, although the book is necessarily inferior in this part to the very complete and beautiful work of Goffres, which we noticed some years back. Still, since the publication of the latter, there are additions of value, such as the porcelain probe, for exploring gunshot wounds, brought into notoriety by the wound of Garibaldi. There is no notice in Sedillot's book of L'Estrange's little drum; or, as it might be called, the reverberating probe. Had the surgeons, who did not cover themselves with glory on the occasion alluded to, possessed the simple little instrument brought into notice by Mr. L'Estrange, and used in Dublin for the last quarter of a century, they would not have given their French consultant his easy triumph. For the information of those who have not seen it, we may state that the instrument consists of a small circle of light wood, mounted on a stem which can be readily fastened to a probe, or sound, and that it has the power of conveying to the ear, as well as to the finger, an appreciation of the material, whether calculus, metal, cloth, bone, or flesh, with which the point of the probe comes into contact.

Of other, and more imposing, if not always more important, novelties in the domain of operative surgery, there is no lack. There is an intelligent appreciation of the value of *écrasement linéaire*, and of cauterization by arrow heads, and other methods of employing caustics in lieu of the knife. Sedillot's opinion, in one word, is, that however valuable, they will remain exceptional in their application, and will not displace the knife. This is in accordance with common sense, if not with the enthusiastic anticipations of their inventors and advocates. Similar remarks apply to the use of drainage tubes, which have their advantages, but must not indiscriminately displace free incision in suitable cases. Against metallic sutures he is too prejudiced to be impartial. Much of his prejudice arises from the bugbear of French surgery—a dread of pyemia. Union by primary adhesion is a thing un hoped for by French surgeons, as a rule; hence a reluctance to use any dressings that will too closely approximate the edges of a wound, as they believe that such practice leads to the enclosure of pus in the deep parts of the wound, with the certain result of their *infection purulente*. We have met no notice of acupressure in these volumes, nor is the acquaintance with foreign literature one of their marked features. M. Sedillot gives a fair account of the origin of anesthesia, although in some particulars it is not quite accurate, and in others not complete. As we have never seen a perfect account of it in print we avail ourselves of the opportunity of giving a brief *résumé* of its history, and of apportioning the credit to the several persons to whom the honour of this precious boon to the suffering is due. The germ of anesthesia is to be found confessedly in a suggestion of Sir Humphry Davy. In his lectures, he throws out the hint that possibly nitrous oxide, or laughing gas might be made available for lessening or destroying sensibility in surgical operations. In 1846, Mr. Horace Wells, a dentist, of Hertford, Connecticut, performed the first painless operation on man (extraction of a tooth) using this gas. He acknowledged that he got the suggestion from Sir Humphry Davy. Mr. Wells introduced anesthesia into practice, and the principal honour is undoubtedly due to him. By a strange fatality it caused his death. In the succeeding year he divided his femoral artery while partially under the influence of chloroform, his mind having become unhinged by disappointments connected with the subject of anesthesia.

Dr. Morton, of Boston, aware of Wells' operations, repeated them. Dissatisfied with the agent, he made trial of sulphuric ether, and

thus made the second and, perhaps, most practically important step. His assistant or partner, a man of the name of Jackson, tried to secure the glory for himself, and for some months there was a hot dispute, not only in America, but in France also, as to which had the priority. The Parisian Medical Society undertook the task of deciding the point, and having heard evidence from Morton's law adviser, and from a pupil of Jackson's, they decided in favour of Morton, after a long and patient investigation.

Of the mode in which Sir James Simpson became acquainted with the merits of chloroform, the profession is fully informed; and in this country the worthy baronet carries off, at least, his full share of credit in the introduction of anesthesia.

Briefly, the case is that Sir Humphry Davy first suggested it, Wells first introduced it, Morton first made it generally practicable, and Sir James Simpson brought it to perfection. The Americans, as is well known, demur to the last part, as they still prefer ether or mixed vapours to chloroform. But as to the relative merits of ether and chloroform, we do not intend to enter.

Attention has lately been drawn, by Althaus and others, to the decomposition of tumours by galvanic currents. The following extract will be read with interest:—

“Dr. Ciniselli, of Cremona, has proposed a new method, consisting in establishing an induction current between two needles, placed, one in the thickness of the tumour, and the other at a little distance. The needles, according as they communicated with the positive or negative pole, bring about decomposition or chemical cauterization, alkaline in the first case, acid in the second, and the resulting cicatrices are either soft and extensible, or dry and retracted at the will of the surgeon, according as he selects one or other current.”

He wisely adds that further experience is needed of this mode of treatment.

In operations on the arteries we miss all notice of the now well established method of the late Professor Porter, for ligature of the common femoral. Whether this operation be accepted or “banished from surgery,” it ought not to have been omitted. Still less excusable is the oblivion cast over Teale's rectangular flap; for this method of amputation has achieved more than a local renown. The method of the author (p. 444) is not a good substitute for it, although it may sometimes be of use as a substitute for the ordinary flap. As

applied to the leg it consists in forming a large external flap from the soft parts over the fibula, and from the external half of the gastrocnemius. In forming the flap, the point of the knife passes out a couple of inches higher up than the level at which it was entered, so that the flap is oblique, being longer at the back than in front. This method may be useful where a covering is not readily obtained from the calf alone; otherwise we can hardly approve of purposely dividing the gastrocnemius and making the muscular portion of the flap so ragged.

In the chapter on resections no mention is made of Mr. Butcher's statistics, those referred to being Heyfelder's and Lefort's, and we may add, *en passant*, that Butcher's saw is also ignored. This is not surprising, inasmuch as the ordinary saw in use for amputations in France has been, for centuries, a bow saw with a blade capable of being detached, and of being tightened by a screw, and also of being arranged at any required angle. In fact the saw is figured in Scultetus. The modification effected by Mr. Butcher did not, therefore, attract the same attention in France as it did in these countries, where the somewhat clumsy meat saw was the one chiefly in use. On the other hand there is an intelligent appreciation of Mr. Butcher's "very rational" proceeding for resection of the wrist, whereby he preserves the extensor tendons of the thumb.

In the chapter on section of nerves we miss Moore's or Hilton's operations for division of the gustatory in cancer of the tongue. Sedillot's own modification of the operation for removal of the tongue is worth a passing note. He divides the lower jaw, not by a straight vertical cut, but obliquely by a notched or serrated margin. By this simple device, perfect apposition of the fragments is insured without the necessity of boring the bones and transfixing it with wire.

When treating of the forced dilatation of stricture of the urethra, Perré's very crude method, and his first feeble clumsy instrument alone is depicted and commented on with less than the faintest praise, while Holt's name is not even mentioned, and the admirable results of his method are apparently unknown. As far as Perré was concerned the immediate plan would seem to have been consigned to the limbo of forgotten inventions.

In the history and description of Uranoplasty and Staphyloraphe there is much valuable information of a practical sort, but also much confusion of authorities; in fact, as a history it is not reliable; but as this subject belongs especially to Mason Warren, we shall leave it for the present.

The volumes of M. Sedillot are a perfect mine of operative surgery, and for a reference will be of great value. If we have dwelt rather on deficiencies and errors, it is for the purpose of obtaining their correction in future editions, and so aiding to render a valuable work as nearly perfect as possible. Sir Philip Crampton becomes A. Crampton of Manchester, and Baker Brown, of London, becomes Backer Brown; but it is vain to expect from the foreigner correct spelling of our barbarous names, and on the whole the sins in this respect are wonderfully few.

Mr. Bell's admirable little manual contains a mass of condensed information on most of the operations that a surgeon is called on to perform. There is, perhaps, too great an amount of condensation, for clearness is now and then sacrificed. Generally speaking the descriptions are accurate and intelligible.

We find a statement, which does not surprise us, at p. 74, viz., that Piragoff has given up his own modification of Syme's operation. The reasons for so doing are that the portion of os calcis, which is retained, often becomes diseased; that union is slow; that the pad of the heel is too far forward, the weight coming on the insertion of the tendo-achillis, and that the stump is too long, no room being left for an artificial spring to supply the want of the arch of the foot.

In describing Langenbeek's modification of Warren's operation for fissures of the hard palate, the incisions along the alveolar ridge are represented as extending from the canine tooth in front to the last molar behind. This length of incision is quite unnecessary, one half an inch in length being generally ample. In fact there should be room to enter Langenbeek's elevator and no more.

As may be expected, and as the author says in his preface, the selection of operations shows northern proclivities. The name of the great surgeon of Edinburgh is met on many of the pages, as might be expected, where the author has been educated under his wing. We give him credit for avoiding causes of dispute, by making no mention whatever of acupuncture or of any mode of arresting hemorrhage from operations.

The name of Mason Warren naturally brings to mind the subject of cleft palate.

The first glory of staphyloraphe belongs to Roux, that of uranoplasty to Mason Warren, for although Lemonnier operated for

fissure of the soft palate, exactly 100 years ago, viz., 1767, there is no record of his method, nor even of his success or failure. Graefe, who tried it in 1816, failed at first. Roux, in 1819, performed the first known cure of congenital fissure of the soft palate. He operated with great but not uniform success, his procedure being very mechanical, and his method of diminishing muscular tension being very unscientific. His incisions for this purpose were transverse, and cut off the soft palate from the palate bones, leaving often a permanent gap, to be filled by an obturator. Congenital fissure of the hard palate was not attempted by Roux. M. Sedillot's statements on this head are incorrect, on the evidence of Roux himself, whose book is open before us. He only performed an autoplasmic operation in case of accidental holes, syphilitic or otherwise, in the hard palate; of these operations he had only four, and one at least failed.

Dieffenbach improved Roux's operation of the soft palate by making incisions parallel to the cleft, so as to relax the tension of the flaps. He also essayed to divide the bony palate and to approximate its edges by lead sutures. In this latter effort he appears to have been unsuccessful. Dieffenbach's date is 1834. Passing over the dietetic advances of Sir Philip Crampton, in 1842, we now come to Mason Warren, of Boston. Up to his time cases for operation had been limited to fissures of the soft palate, and of those to fissures of no great width, at least with a few exceptions; but we shall let Mr. Warren speak for himself:—

“The operation was at first deemed applicable only to fissures of the soft palate, which, of course, are almost the exceptional cases; as, out of from eighty to one hundred operations for fissure of the palate which have fallen under my own observation, in not more than a tenth, probably, of the whole number, was the fissure limited to the soft parts. Nearly all cases of fissure extending into the hard palate were rejected as unfit for operation, although Roux had suggested the idea of relaxing the soft palate by cutting it completely away from its attachments at the posterior edge of the palate bones. This operation is very likely to prove abortive, from the division of the vessels which supply the flaps with nourishment; and, even if it succeeds, it leaves an unnecessarily large aperture in the bones, still to be covered by artificial means. Being impressed by the very great proportion of the cases of cleft palate which were deemed incurable, I was led to perform an operation for the especial relief of the more extensive fissures, which include both the soft and hard palate; and, in April, 1843, I published, in the ‘*New-England Quarterly Journal of*

of Medicine and Surgery,' an account of a new operation for the closure of fissures in the hard palate, together with a very important modification of the operation of staphyloraphy, as practised for the relief of fissures of the soft palate. The operation upon the hard palate (I quote from the description of my first case as reported at that time) consisted in 'dissecting up, with a long, double-edged knife, curved on its flat side, the membrane covering the hard palate, pursuing the dissection quite back to the root of the alveolar processes. By this procedure, which was not effected without considerable difficulty, the membrane seemed gradually to unfold itself, and could be easily drawn across the very wide fissure. A narrow slip was now removed from the edges of the soft palate and with it the two halves of the uvula. By this means, a continuous flap was obtained, beginning at the roots of the [incisor] teeth, and extending backwards to the edge of the velum palati. Finally, six sutures were introduced, on tying which the whole fissure was obliterated. . . . This patient returned home into the country at the end of three weeks; a firm, fleshy palate being formed behind, and half the fissure in the bony palate obliterated. In the following spring, I again operated on the remaining fissure in the hard palate, and succeeded in closing half the extent of it; the tissues yielding with some difficulty, owing to the induration caused by the former operation. The small aperture which remained, I directed to be closed by a gold plate.' I had, at this time, operated in this manner in fourteen different cases, 'which, with one exception, had terminated successfully, either in the closure of the whole fissure of both hard and soft palate, or so far that the aperture which remained in the bones could be easily closed by an obturator fitted to the adjoining teeth.'

"The improvement to which I have alluded, in the operation upon the soft palate, consisted in the relaxation of the tissues of the fissured velum, by means of incisions, made with strong curved scissors, so as to divide the attachments of the soft palate to the tonsil and to the posterior pillar; or, in other words, dividing the posterior pillar of the palate just where it begins to spread out into the velum. The effect of this incision is at once seen in the almost complete relaxation of the parts, so as to admit of their easy approximation and union by suture. At this time, I had met with no case in which this procedure failed to relax the parts, as I thought, sufficiently for the requirements of the operation; and, in the fourteen cases of operation of complicated cleft palate which I had then performed, I had met with but one unsuccessful result. In subsequent operations, however, I found that there existed, in some cases, an additional obstacle to the approximation of the flaps, which could be overcome as easily, and in the same manner, as the former. This obstacle consists of a band of firm tissue, extending above and behind the soft palate, and standing out in bold relief when that organ is put on

the stretch by drawing upon it with the forceps. This resisting mass, like the other, I have always divided by an additional stroke or two with the scissors, whenever the incision of the posterior pillar and adjacent mucous membrane has seemed insufficient properly to relax the palate. By this division of all the parts which oppose any active resistance to the approximation of the sides of the fissure, the operation, as I have performed it, was finally perfected in its essential features; and, since that time, I have known of no important improvements in it, except in a few matters of operative detail. During the past few years, however, I have generally abstained from the attempt to effect the entire closure of very extensive fissures in the hard palate, owing, in part, to the severity of the operation, but chiefly to the fact, that modern improvements in mechanical dentistry have furnished us with a most efficient and comfortable substitute for the natural hard palate, in the form of a metallic or hard rubber plate.

“By the introduction of these improvements in the plan and methods of operating, the surgery of cleft palate at once acquired a new and vastly enlarged importance. The operation of staphyloraphy, as invented by Roux, and practised by many surgeons, both in Europe and America, had been considered applicable only to simple fissures of the velum, a class of cases constituting but a very small fraction of the total number of cleft palates, and the very ones in which the need of surgical aid is least urgent.

“The highly successful results, however, which I was enabled to report in the treatment of cases which had previously been considered as beyond the aid of surgery, together with the encouraging success which had been already attained by Roux, Dieffenbach, and many other surgeons, from the operation in the soft palate, soon excited the renewed interest of the profession in this most distressing deformity.

“Mr., now Sir William, Fergusson, was led, in 1844, by the dissection of a specimen of cleft palate, to adopt a method very similar to mine; dividing the levatores palati muscles, with a slender curved knife, somewhat higher than in my procedure with the scissors, and dividing the posterior pillars of the palate in precisely the same manner as I had already described.

“The subject of cleft palate has been still further illustrated by several British surgeons of distinction; among whom Messrs. Avery and Pollock of London, Mr. Collis of Dublin, and Mr. Field of Brighton, are especially prominent. All these gentlemen have operated with the most perfect success upon fissures as well of the hard as of the soft palate, and they have all adopted the plan of separating the soft textures freely from the palatine arch. Mr. Pollock divides the palate muscles by a partially submucous incision, at a point near the hamular processes, where the fibres begin to spread out into the velum.”

By these extracts it will be seen that Mr. Warren is really the author of Uranoplasty. He exhibits the magnanimity of all really great minds in giving due credit to all who have worked in the same field with himself. We give the results of his cases also in his own words:—

“The number of cases of cleft palate upon which I have operated by these methods is now about a hundred : of this number, in less than one-tenth was the fissure confined wholly to the soft parts ; and, in at least three-fourths, the gap extended into or through the maxillary portion of the palatine vault. In not more than nine or ten cases, therefore, have I found it practicable to close the fissure, without first dissecting up the membranes from the posterior part of the hard palate, and cutting through the tendinous attachments of the velum to the ossa palati. I have in no case been deterred from operating by the extent of the deformity ; and, in several cases of most formidable aspect, I have succeeded in improving the voice and facilitating deglutition, as completely as in even the simplest fissures of the velum. In one case of simple fissure of the soft palate, I was tempted to operate without first dividing the muscles. The edges of the fissure came so easily together, that any farther incisions seemed unnecessary ; and for several days every thing looked fair. About the seventh day, however, the adhesions gave way, owing, as I believe, in part at least, to the imperfect method adopted. As to the proper age at which to operate, in one case of a fissure which extended but little more than through the uvula, I operated on a child of between six and seven years ; but generally it is necessary to wait until the patient is old enough to fully appreciate the importance of the operation, and to submit patiently to pain and inconvenience ; for this is one of the very few operations in which the use of anæsthetics is inadmissible. Under very peculiar circumstances, I suppose, ether might be administered, but not without some risk to the patient, and much embarrassment to the surgeon, from the constant flow of blood down the throat.”

To this last paragraph we must needs demur, inasmuch as it is now fully established that chloroform can be given in these cases. Mr. Collis, of the Meath Hospital, gives it habitually, and has been thus able to operate with success on very young children. The blood gives less trouble than when the patient is conscious ; it is more easily stanchied by pressure, and what trickles back is simply swallowed. The danger from chloroform is no greater than in any other operation, and the relief from pain, and from subsequent shock and depression, is of the greatest importance. Of the advantages of early operation as regards the patient's education it is needless to

peak. Mason Warren's book is of great interest, independent of this his specialty. From cover to cover it is replete with practical information; it is the record of a working surgeon's experience. Nearly 400 cases are given in sufficient, but not wearisome detail, and are freely illustrated with coloured lithographs and woodcuts. The tabulated results of 154 cases of cancer will be scanned with much interest. The last chapter in the book "on Anesthetics" gives some interesting details of the first use of ether, which we should like to have copied did space permit. To the working surgeon this book will be of the greatest value. We shall only add that its get-up is in keeping, paper, print, and illustrations being all that could be desired.

Since the above review was penned, in fact while in the act of correcting its proof, we have learned, with the deepest regret, that the distinguished American Surgeon, whose work we have but feebly noticed, has passed away. Dr. John Mason Warren died about six weeks ago, somewhat suddenly, from internal cancer. America has lost in him one of her ablest sons, one whose reputation had long since reached these shores, as an earnest worker and most successful Surgeon. This year has cost us many who stood in the position of well-nigh personal friends—the energetic Jobert, the philosophic Trousseau, the practical Velpeau, the young and vigorous and hearty Follin, and now John Mason Warren, who, though farthest removed by distance, was not less known or less esteemed than the rest.

RECENT WORKS ON DERMATOLOGY.

1. *On Diseases of the Skin: a System of Cutaneous Medicine.* By ERASMUS WILSON, F.R.S. Sixth Edition. 8vo. London: Churchill and Sons. 1867.
2. *Journal of Cutaneous Medicine and Diseases of the Skin.* Edited by ERASMUS WILSON, F.R.S. (Published quarterly). 8vo. London: Churchill and Sons. 1867. (Nos. for April, July, and October).
3. *On Diseases of the Skin, including the Exanthemata.* By FERDINAND HEBRA, M.D., &c. Vol. I. Translated and Edited by C. HILTON FAGGE, M.D. London. 8vo. Published for the New Sydenham Society. 1867.
4. *A Practical Treatise upon Eczema, including its Lichenous and Impetiginous Forms.* By Dr. M'CALL ANDERSON, &c. Second Edition. 8vo. London: Churchill and Sons. 1867.

5. *Clinical Lectures (illustrated by Coloured Photographs from Life) on the Diseases of the Skin.* By BALMANNO SQUIRE, M.B., F.L.S., &c. 4to. London: Churchill and Sons, 1867. [Nos. I. to IV.]
6. *Unhealthy Skin; its Prevention and Management: A Popular Treatise on Cutaneous Hygiene.* By BALMANNO SQUIRE, M.B., F.L.S. 12mo. London: Longmans, Green and Co. 1867.

IN various numbers of this Journal, we have, from time to time, reviewed the progress of what we may call Dermatological literature; and, in accordance with our previous practice, we now proceed to make some remarks on several works which have been lying on our table, in some instances for a longer, in others for a shorter time.

To understand more clearly our status as regards this portion of medical literature, it may be well to recapitulate the dates of the latter reviews above referred to.

In our number for August, 1864, our readers will find a review of this subject in connexion with the following works:—

- (a) *Blake's Translation of Caillault, on Diseases of the Skin in Children.*
- (b) *McCall Anderson's Practical Treatise upon Eczema; and*
- (c) *Frazer's Treatment of Diseases of the Skin.*

In February, 1865, appeared a short notice of Mr. Squire's first *Photograph of Skin Disease*; and a review of Dr. Tilbury Fox's work on the same subject.

In November, 1865, a further review appeared in connexion with the following:—

- (a) *Erasmus Wilson's Inquiry into the Relative Frequency, Duration, and Cause of Diseases of the Skin.*
- (b) *Erasmus Wilson's Student's Book of Cutaneous Medicine.*
- (c) *Hillier's Hand Book of Skin Diseases; and*
- (d) *McCall Anderson on Psoriasis and Lepra.*

In February, 1866, the subject was again noticed in connexion with *Belcher's Second Edition of Neligan on Diseases of the Skin*; and, lastly, in February, 1867, in connexion with *Nayler's Practical Treatise* on the same department of medical literature.

From all this it will appear that we have not omitted to notice the practical advancement of medical science as regards what is, by

some, called "cutaneous medicine;" and, therefore, it will be the less necessary in the present case to go over ground which we have trodden only a short time since.

Wilson.—As to Mr. Wilson's great work, comparatively little need be said. When a large book, on a special subject, has reached a sixth edition, within, comparatively, a few years, it may be deemed to have obtained as much eminence as any one could fairly desire. Of course it is not possible for us to go through this large work critically, or to enter into any lengthened controversy on any vexed questions contained in it—although some things contained therein are open to question. As to one prominent feature in the present edition we shall let Mr. Wilson speak for himself, as he thus does in the preface:—

"Elephantiasis Grecorum, the lepra melas and leuce of the ancients, or simply, leprosy, has long engaged our attention, and occupies a somewhat prominent position in the following pages. Our interest in this remarkable disease received its first impulse from the researches of Danielssen and Boeck, and was further stimulated by the very interesting antiquarian inquiries of Sir James Young Simpson, and by the occurrence of several examples of the disease in our own practice. More recently, our interest in that terrible malady has been increased by the evidence supplied to the Leprosy Committee of the College of Physicians, and by the unexpected discovery that the disease is spreading by degrees to the European population of our settlements in Hindostan and in the Indian Seas. Ten cases of leprosy have fallen under our observation during the current and past year, and certain important questions force themselves upon our attention; for example: How shall we protect our Indo-European population from the invasion of this disease? How shall we treat the disease when already established? and, What shall we do with our lepers in the nature of a refuge and an asylum? If, by the extension of territory, we subject our population to the invasion of a malady unknown to them at home, we incur the duty, as it seems to us, of finding the means of relieving them of that disease, when, unfortunately, they become the victims of its attack.

"In near association with leprosy is syphilis; the phenomena of the syphilitic poison are replete with interest, and the closer we investigate those phenomena, both in respect of contagion and manner of evolution and development, the more we are assured of our power and mastery over the disease which that poison is capable of engendering. The syphilitic poison, in its manifestation by the skin, has the remarkable property of simulating the common characters of the exanthematous

fevers, and of presenting, at different periods of its existence, the whole of the recognized pathological lesions of the cutaneous tissues; one while it gives rise to an erythema, then to a papule, next to a pustule, a vesicle, or bulla; again, to a tubercle, a squamous exfoliation, an ulcer, or a crust; and finally to a macula and a cicatrix. Our attention was early attracted by these curious and extraordinary phenomena, and to the interest so excited is due the extensive elaboration and considerable space which we have devoted to the subject of constitutional syphilis.

"The present edition has been carefully revised, in many parts rewritten, and our attention has been especially directed to the practical application and improvements of treatment. And, in conclusion, we venture to remark, that, if an acute and friendly critic should discover any difference between our present opinions and those announced in former editions,^a we have only to observe, that science and knowledge are progressive, and that we have done our best to move onwards with the times."

One of the changes of opinion of which we find evidence in this edition is as to the matter of classification, Mr. Wilson having in the present case adopted what he put forward in his *Student's Book*, under the name of a "Clinical Classification." As we have already given that classification in full in our review of the last named work, it will not be necessary to advert further to it here, save to give a reference to the remarks which we made thereon, and which apply in this as in the former case.

With reference to the above quotation from the preface, the following remarks on page 670, regarding the existing forms of elephantiasis, are somewhat to the point:—

"Taking a mental survey of that grand, that elephant disease, the leprosy of the middle ages, which forms so prominent a feature in the history of Europe, and especially of Great Britain, of which examples have not very long vanished from our land, the question naturally arises to the mind, And is it gone? And if it be gone, has it left no remains behind? Are there no traces of THE leprosy? Is there nothing at the present hour which belongs to, is a part of, is a living record of that immense disease? Can our medical antiquaries discover no impression of its gigantic footsteps? Has it passed away like a shadow, or like the wind, totally, and never to be seen again? To which we answer, It would be contrary to all analogy to suppose that it had so totally passed away as not to leave a trace; and yet no sign exists in the records of

^a "The dates of the several editions of this work are: 1842, 1847, 1851, 1857, 1863, 1867."

medicine to tell us that such is not the case. But though the sign may be absent in the records of medicine, the infallible sign remains imprinted on man. Leprosy exists amongst us still, but only as a faint trace of a worn-out disease, or as an emblem of the burnt-out fire. God forbid that the spark should be rekindled! We repeat, that elephantiasis still exists amongst us in this country as a *faint trace* of its former self, and the observation of that trace, however faint, becomes a matter of interesting research. Although a mere shadow in comparison with the parent disease, it is nevertheless sufficient to occasion considerable annoyance to the sufferer, and to bring him not unfrequently under the inspection of the medical man. Nor, when once pointed out, can the medical man doubt for an instant the nature of the disease which he has before him: there is the insensibility, the metamorphosis of tissue, the blanching, the exhaustion of function, and the atrophy of the parent malady, with all their original distinctness, indeed, one complete symptom of the pure elephantiasis, preserved unchanged, as it existed amongst the Hebrews, and as it is to be found at this moment on the shores of Norway, the symptom which was called by the ancients *morphæa*."

The fifth edition of this work contained 784 pages, while the sixth contains 931. No small part of the new matter occurs in Chapter XIX., on "Leprous Affections;" and on this chapter we may, perhaps, be allowed to make a few remarks.

First, then, we protest, in the name of medical scholarship, against a writer of so great authority and of such eminence as Mr. Wilson—we protest, with all courtesy, against his making many historical statements, in this chapter particularly, without giving his authorities. On p. 591, he commences a very excellent and clear historical statement respecting ancient and mediæval leprosy. On that page several names, dates, and localities are mentioned, without giving the reader any intimation whence the information is derived, or how far it may be relied on, for purposes of quotation, as accurate. In one instance only on this page is an authority given, and that is with reference to a historical statement respecting Bodmin in Cornwall, which now appears for the first time. It must be said, however, on the other hand, that this defect is only observable where *home* authorities are concerned. Foreign authorities are much more frequently given. Let any one read Mason Good's *Study of Medicine, on Leprosy, and Elephantiasis*—let him read Sir James Simpson's *Antiquarian Notices of Leprosy and Leper Hospitals in Scotland and England* (both published before Mr. Wilson's first edition), and then read over Chapter XIX.

in this book—he will at once fairly conclude that most of the antiquarian, historical, and philological information in it is taken from these two most learned authorities; each of whom, by the way, gives *his* authority for all he has written. It is a literary injury to Mr. Wilson's book that this does not clearly appear on its pages. There is, indeed, a reference to Mason Good in a note, but not as authorizing a statement in the text. He is only referred to as the author of a translation of two lines from *Lucretius De Naturâ Rerum*—which lines, we think, ought to have been given in the original. True, also, it is that there is in Chap. XIX. a reference to the researches of Sir James Simpson above referred to, but it is only a note that his account is “excellent and interesting,” and may be found in a certain journal. There is no intimation that a great part of the text depends for its authority on that very “excellent and interesting” account.

As to Ireland, all about ancient and mediæval leprosy is summed up in this addition to the text of the fifth edition—“there is evidence also of its existence in Ireland.” What evidence, we ask? Where is it to be found, and is it worth looking for?^a

The truth is that this chapter is of interest only to the more learned in the medical profession; and this being so, its statements ought to be duly authenticated, *modo scholarium*. Not only ought the authorities to be named, but, where these may be MSS. or rare books, the places where they may be seen should also be noted.

There is a great improvement in the Greek department of the sixth edition. One example may suffice, and we take it from Mr. Wilson's “interpretation” of the 13th chapter of Leviticus. It is the beginning of what we advocate, viz.—giving authority for a historical or critical statement:—

5th edition, page 409.

“2. When a man shall have an eruption in the skin *like* the eruption of leprosy, be it a tubercle, a scab, or a glossy spot; then he shall be brought to the priest.”

6th edition, page 642.

“2. When a man shall have an eruption in the skin *like* the eruption of leprosy, be it a rising (saat, Heb., *סולת*, LXX.), a scab (saphat, Heb., *שפמסס*, LXX.), or a bright glossy spot (berat, Heb., *לעכ*, LXX.); then he shall be brought unto the priest.”

Whether this latter mode of dealing with the text originated

^a In Dr. Belcher's edition of *Neligan on the Skin* (which we reviewed in February, 1866), our readers will find a good deal on the Irish aspect of this question.

with a frequent contributor of ours^a we know not; certainly, however, mention of the Septuagint version, as illustrating or explaining the meaning of the Hebrew, now appears in Mr. Wilson's deservedly great work for the first time.

In this edition, also, we find for the first time a Dermatological Glossary of great value; and the profession have every reason to thank Mr. Wilson for it.

In the *seventh* edition, which we hope to see, Mr. Wilson will, we trust, obviate the want which we have endeavoured to point out, and thus make his *maximum opus*, the great book for reference and authority in all things concerning dermatology.

Of Mr. Wilson's Journal of Cutaneous Medicine we wish to write favourably. It is manifestly a step in the right direction, and will tend very much to remove a great deal of that mistiness which, to ordinary medical men, seems to hang over the entire subject of dermatology. To one *desideratum* it has a most direct tendency, viz.—to a mutual understanding as to the meaning to be attached to certain names of diseases. Among the contributors are several of those whose names have been above mentioned as themselves the authors of works on diseases of the skin. They appear to work harmoniously under the command of their chief. Their papers are well written, and the unceasing work of Mr. Wilson appears throughout. We have carefully read over the three numbers; and if we forbear to mention any particular paper as worthy of note, it is only because we should desire to do what space and time will not allow, viz.—to enumerate all, and dilate on some. We wish Mr. Wilson's youngest literary offspring all success. It seems to be clad in the "Joseph's coat" of a favourite; and, if its brethren will allow it, will doubtless hold its own among our medical periodicals.

Hebra.—Professor Hebra's work in an English dress is a novelty, and an agreeable one. As a translator, Dr. Hilton Fagge has done his work most creditably, and, in fact, this English edition is, in some respects, superior to the original German. The latter appeared in Virchow's "Handbuch der speciellen Pathologie und Therapie," and was not entirely Hebra's work. In this English edition, however, the entire is Hebra's work, he having re-written those parts which appeared in German as the works of others.

^a Dr. Belcher. See his papers in this Journal in 1864, entitled, "The Hebrew, Mediæval, and Modern Leprosies Compared;" and "Remarks on the Hebrew Catalogue of Skin Diseases."

“Moreover,” continues Hebra, in the English preface, “there are in the original several errors by which the meaning is perverted; all these have been corrected in the present volume. Consequently, many little changes will be found, which are to be regarded as improvements. In fact, in all these points, the English translation is more correct than the German edition of my work.”

In reviewing a work of this kind we do not think that the original should be subjected to criticism, but only the new edition of that original; and this consideration raises so many familiar questions that, so far as Dr. Hilton Fagge is concerned, we think his position as editor and translator, and the value of this particular edition, may best be expressed in his own words. He thus writes in the translator's preface:—

“There will always be a difference of opinion as to the best course to be adopted in translating from one language into another: whether the expressions used in the original should be transplanted, so to speak, into the fresh soil, in the hope that they shall still flourish, or whether the object should be to convey the opinions of the author, in the words commonly employed by those who write in the language of the translation. It has been my aim to follow an intermediate course. But, although I believe my translation to be more literal than some which have been placed in the hands of the English Medical Public, I think, in looking over the pages which follow, that I am more likely to be blamed for departing from the exact mode of expression in the German text than for adhering to it too closely.

“There are, however, reasons which lead me to believe that a justification may be found for this. Every sheet of the translation has been read over by Professor Hebra, and every passage in which I felt any doubt as to the faithfulness of the translation, or as to the sense of the original, was underlined by me, and has been accepted by him, or corrected so as to convey the right meaning. It is the more necessary to make this remark as there are, at least, one or two instances in which statements are made in the original text, diametrically opposite to what was intended by the author. In these cases, the English edition, of course, differs altogether from the German.

“Again, I am convinced that a very literal translation is often really less accurate than a more free one. Words and forms of expression which are commonly used in a language are often introduced loosely and without definite meaning; whereas, when transferred to another language, they convey to the reader ideas of a precise kind which were not at all intended by the original author.

“Professor Hebra has mentioned that certain chapters have been

rewritten for the English edition of this work. These are Chapters V. and VI., "On the Affections of the Glandular Organs of the Skin," and the greater part of Chapter XV., of which Herpes is the subject. Moreover, in the chapters on Morbilli and Scarlatina, certain details as to the internal diseases which occur as complications or sequelæ of these exanthemata have been omitted. These omissions bring the volume back to a size probably nearly equivalent to that of the original, for the chapters rewritten by Professor Hebra occupy a much larger space than those which they have replaced.

"It may also be well to remark that the arrangement of the work itself differs from that adopted in the German edition. In the latter, a tabular construction is followed throughout; there are no separate chapters; and headings in small type not rarely correspond to others at intervals of more than a hundred pages. Such a plan would, I think, give an English reader great inconvenience; and, therefore, the present volume has been thrown into chapters; of which one (Chapter VII.) is made up of the isolated paragraphs above referred to, all of which are thus collected together. The tabular arrangement of the original is, however, preserved in the table of contents."

Hebra's classification will be found on page 48; and though it will appear new to many, it should be noted that it has before now been published in English. Among books in which it may be found we may refer to p. 14 of *Belcher's Edition of Neligan*, published nearly two years ago. We cannot stay to discuss the merits of this classification; and we shall only now pause to direct attention to what we consider the most remarkable part of the book—one well worth reading, and one specially marked off from other books by its elaborate treatment of the subjects treated in it. It is chapter V., on Anomalies of the Secretion of Cutaneous Glands. If any one wants to know something of Bromidrosis, Hyperidrosis, Chromidrosis, Hematidrosis, Galictidrosis, and Uridrosis, Hebra's is the book for the attainment of such knowledge.

We hope the new Sydenham Society will not disappoint the profession as to the speedy issue of the second volume of this medical classic.

M'Call Anderson.—Among the foremost contributors to Dermatology in these countries, Hebra specially names Dr. M'Call Anderson, of Glasgow; and having read the second edition of his book on Eczema, we gladly confess that Hebra's estimate is well founded, and we hail with pleasure an enlarged and much improved edition of his book on Eczema. The first edition was favourably

noticed in our pages, and to the second we have much pleasure in according an equally favourable notice. The first edition, published in 1863, consisted of 134 pages; the second consists of 180 pages, and is in many respects improved.

In our review of the original edition we referred particularly to the peculiar views held by Dr. M'Call Anderson as to the nature and extent of Eczema, and therefore we need not advert to them now, further than to note the fact that he holds the same views as he formerly enunciated. In the book before us those parts concerning the diagnosis, treatment, and special features of the local varieties have been markedly improved; many prescriptions have been added; and Dr. M'Call Anderson has not been ashamed to change or modify his opinion, where he thought there were sufficient grounds for doing so. We shall gladly look out for *another* book of his; and, if he will receive a friendly suggestion from us as to the subject, we may hint to him the desirability of bringing out a new edition of his work on parasitic affections of the skin.

Squire.—Mr. Squire's clinical lectures (illustrated) are remarkable productions in their way. The numbers before us (I.—IV.) are the first four of a cheaper and enlarged edition of his "Coloured Photographs of the Diseases of the Skin." The plates are on a reduced scale; but, notwithstanding this, they are well done; and their marked peculiarity consists in each plate being accompanied by a "clinical lecture." For example, No. IV. illustrates *Scabies*; and has attached to it two pages of letter-press, headed "Class IV.—Animal Parasite Diseases—Scabies." In this we find a concise "general description" of the disease; an outline of the treatment recommended; a history of the case illustrated by the photograph; and a note as to the special features of the photograph itself. The plate is an actual representation of a case which occurred in Mr. Squire's practice, and we have no doubt of its being a typical one in London. In Ireland, however, that interesting malady, scabies, very rarely comes before the practitioner in such glowing colours.

As to Mr. Squire's "Popular Treatise," we cannot but speak in qualified terms. There is much that is true in it, and much that is useful, were it *not* intended for popular use. Skin diseases are spoken of by their vernacular designations in England; yet treatment by arsenic is discussed; and on p. 129 we find mentioned, for the information, no doubt, of anxious nurses, these awful words, "*Microsporon Audouini*!" On page 118 an affectionate mamma

will find a horrible picture of the itch insect magnified 200 times; and she will find that this is the twelfth illustration in this "popular" treatise, the other eleven being engravings in illustration of the anatomy and physiology of the skin, nails, hair, &c. Our readers can judge from these facts as to the nature of the book. If it were intended for popular use, we think little more need have been said than to indicate the course to be pursued by nurses and mothers until they could get medical advice. How far this will be answered by discussing the merits of arsenic, or by showing an immense *acarus scabiei*, we leave our readers to determine.

1. *Guy's Hospital Reports*, 3rd Series, Vol. xii.
2. *Clinical Lectures and Reports by the Medical and Surgical Staff of the London Hospital*, Vol. iii.
3. *Saint Bartholomew's Hospital Reports*, Vol. ii.

THE publication of the first number of *The Dublin Hospital Reports* in the year 1817 marked the commencement of a new era in the Irish school of medicine. The political events immediately preceding this date, as well as the social changes going on, more particularly in Ireland itself, withdrew attention from original observation, and indeed checked all the mental energy of the country; but a new movement now commenced, evidenced, as has been remarked by Dr. Stokes in his *Life of Graves*, by a general advance in the mathematical, physical, and natural sciences, and in the studies of literature and archeology. Medicine, led on by such men as Cheyne, Graves, Marsh, and Stokes, took part in the general movement, and clinical research was the means by which it became a productive and rapidly-progressing science. *The Dublin Hospital Reports*, of which this Journal is the lineal offspring, was the means by which the new movement was stimulated, developed, and directed; and we now hail with peculiar pleasure the issue of these systematic reports, several volumes of which are before us, from the various hospitals of London. The bringing together of the valuable papers contained in these volumes cannot fail to advance our knowledge of the natural history of disease and of the powers, as well as of the limits, of our God-like art. We cannot, however, avoid giving expression to a wish that, instead of each hospital publishing a volume of reports of its own, they would all unite and

publish the results of their labours monthly or quarterly, as the necessities of the case might require, in a single volume, whereby the labours of inquirers would be lessened, and the true interests of science be promoted, while the local ambitions and jealousies of the several institutions would be kept perhaps more fully in abeyance.

Guy's Hospital Reports.—Of the various reports before us this is the oldest, having now reached the 12th volume of the 3rd series. In the last number of this Journal we noticed two valuable contributions to this volume On Diseases of the Nervous System, by Dr. Wilks. In addition to these there are twenty-three others, some of which we shall now introduce to our readers. The first is by Mr. J. Cooper Forster, On Hydrophobia, founded on the six cases recorded by Dr. Bright as having occurred in the decade from 1820 to 1830, and on seven that occurred subsequently; and it is worthy of remark that no case is to be found noted in the records of the hospital from 1837 till 1856—a period of nineteen years. The first question considered by Mr. Forster is, how long after the bite may hydrophobia occur? Of the thirteen cases the shortest time that elapsed was four weeks, and the longest, in one case only, five to seven years. The other eleven all took place at various periods within eleven months, showing that the poison is more tardy in its action than any other that assails the human body. It appears that when the disease manifested itself early the bite was in the most sensitive and vascular parts of the body; thus when it was on the lip four or five weeks only elapsed, on the hand five to seventeen weeks, and in one case forty-seven; and it seems probable that the longest intervals occur where the part bitten had been covered with clothes at the time of the injury. The following are Mr. Forster's conclusions on this point:—

“1. That when a bite has occurred on the face a rapid appearance of the disease may be looked for; that a few weeks, probably four or five, will elapse before evidence of it is shown, and therefore that if those few weeks pass over safely an immunity from the malady may be expected.

“2. That when the bite has taken place on the hand a still longer time, from five weeks to a year at least, must be looked forward to with much anxiety. It may be that in the single case among the ten in which a year elapsed before hydrophobia occurred there was some special reason for the delay; to this we shall advert when speaking of the treatment.

"3, and lastly. That when the clothes have been bitten through before the skin is injured some years may pass ere the disease occurs.

"Some may be disposed to think that when hydrophobia appears some years after the occurrence of a bite it can scarcely be considered to be owing to the wound then inflicted. That the case No. 4 was an undoubted specimen of the disease, none of those who saw the patient could hesitate for a moment to pronounce, but whether such a disease as spontaneous hydrophobia can occur may be another question. This appears to be the only solution of the difficulty, but it is one which we cannot adopt. That cases do occur resembling hydrophobia in several particulars, except in the termination, there is no doubt; one was mentioned in *The Times* newspaper not long ago, and vaunted as hydrophobia cured by salivation. No one who read that case could have the slightest hesitation in pronouncing it to have been hysteria. Several instances are on record of hysterical dysphagia, in which inability to swallow liquids was the marked symptom, and in the accounts of many, indeed of nearly all these cases, barking is adduced as a characteristic symptom, as if the disease must therefore be hydrophobia. In fact, however, though in well-marked cases of hydrophobia the former is a constant symptom, the latter is by no means invariably present. Dr. Bright mentions this hysterical dysphagia occurring in a woman forty years of age; the patient, of course, recovered."

The original wound did not undergo any alteration in any of the thirteen cases, except one, previous to the appearance of the hydrophobic symptoms, and consequently the author does not coincide in the opinion generally held on this subject. He believes, however, that intense pain in the course of the nerves leading from the injured part is one of the earliest and most marked symptoms of the commencement of the malady; and this, with the characteristic difficulty of swallowing he regards as sufficiently characteristic of the disease. Except the dilatation of the pharynx, of which at least one very marked example was observed, and which may be a cause or effect, no special organ claimed attention on the *post-mortem* examination. In the following extract we have a summary of the treatment, but in no case was it successful. The preparations of tobacco, so much relied on by the late Dr. O'Beirne of this city, and again brought into notice by Professor Haughton in the form of nicotine, do not seem to have been tried in any of the cases:—

"The variety of treatment adopted shows at once the utter despair of achieving any good result felt by those who have had these patients under their charge, and we do not see how anything else can be expected

unless we arrive at some more satisfactory solution of the pathology of the disease. As matters now stand, the treatment appears to be most empirical, though we doubt not that each surgeon or physician has had a reason for the plan he adopted. We can speak positively on this point in our own cases, which have been two.

"In the first of Dr. Bright's cases bleeding was adopted, though the man was fifty-two years of age:—it was the fashion, or perhaps the necessity, to bleed patients at that time:—the poor fellow lived forty-six hours.

"In the second case of Dr. Bright's nitric acid was applied to the wound by a medical man, and when the attack came on, calomel, antimony, and opium were ordered, but it appears little good was done. The patient died in thirty hours.

"In the third case of Dr. Bright's amputation of the arm above the elbow was had recourse to, and the patient lived forty-eight hours.

"In the fourth hydrocyanic acid was given; the patient lived forty-eight hours.

"In the fifth subacetate of lead was the remedy tried; the patient lived sixty-three hours.

"In the sixth and last of Dr. Bright's cases an injection of half an ounce of rectified ether was administered and repeated two or three times, with opium. The man lasted seven days.

"In the first case mentioned in this paper it appears that nothing was done; at least, no particular remedy was tried, and the patient lived three days.

"In the second case cajeput oil was used.

"In the third case, Dr. Addison, under whose care the patient was, appears to have given free purging a good trial, with the result common to all the cases—death. This occurred in forty-eight hours.

"In the fourth case mentioned by Dr. Habershon, cannabis indica was used as an injection, and chloroform was afterwards administered.

"In the fifth case, which occurred but four weeks after the bite, excision of the injured part had been performed immediately, and injections of quinine were tried; the boy lived seventy-two hours.

"In the sixth and seventh cases two of the alkaloids were summoned to our assistance, with the like result in both cases; in the former case, however, the patient lived six days, in the latter only forty hours.

"In the sixth case atropia was used, as we have seen. We were anxious to try the full effects of this drug, which Pereira has classed amongst the phrenics and anesthetics, as being one of the most powerful of those medicines which have an especial influence over the cerebro-spinal system. Upon referring to the report it will be seen that a portion under the quarter of a grain was injected in twenty-eight hours, and there is no doubt that, after eleven hours of its use, the patient being

fully under the influence of the drug, a marked quiescent condition appeared; the hydrophobic symptoms seemed to abate. Thus, he swallowed some tea with a little effort, and afterwards some beef-tea, although he had taken no fluids for five days before. The delirium from which he suffered before the atropia was given disappeared. The spitting about the room in which he indulged was more confirmed after the atropia than before.

"After the injection of the 1-36th of a grain, at 2 p.m., December 7th, he rapidly sank, whether from the effects of the atropia or the hydrophobia, or whether from both combined, it would be difficult to say.

"In the seventh and last case nitrate of silver and perchloride of iron had been applied pretty freely after the bite, so much so as to cause considerable suppuration in the hand, and to render the patient seriously ill for nearly six weeks. Hence, if the poison could be eliminated by these means, this was a fair opportunity for such a result. The delayed appearance of the symptoms may possibly have had some connexion with the previous treatment.

"Upon reviewing these cases, the results, and the treatment, can we indorse the remark in Cooper's 'Surgical Dictionary?'—that 'happily surgery possesses one tolerably certain means of preventing hydrophobia when it is practised in time and in a complete manner. Every reader will know that the excision of the bitten parts is the operation to which I allude.'

"Dr. Watson says, 'The early and complete excision of the bitten part is the only measure in which we can put any confidence.'

"In the only case we have reported where excision was practised the disease appeared in four weeks. The bite occurred at a part where complete removal was easily practised without involving any serious complication, and yet it failed; and we believe it is much more likely to fail when practised in other parts of the body, where complete removal cannot be so easily performed. In reality, the only sure method of employing excision appears to us to be to amputate the member at a part between the bite and the body, and that immediately after the infliction of the injury. We should carry out the practice thoroughly, or not at all. We quite agree with Abernethy, and adopt the practice consistent with his opinion, that a patient bitten by a dog, whether mad or otherwise, should be treated on general principles applicable to all injuries. If he be about to have hydrophobia, nothing, so far as we know at present, can prevent it; and we believe that we shall not be able to achieve such a result, until we are better acquainted with the pathology of the disease. Excision or non-excision is alike in vain; sooner or later the disease appears.

"The practice adopted at Guy's Hospital in the treatment of bites,

whether by dogs, horses, men, or women, donkeys, cats, rats, or foxes, varies according to the fancy of the dresser. During the last six months all have had nitrate of silver freely applied. Formerly nothing was done beyond treatment on general principles, except that in some months the house-surgeon or dresser applied strong nitric acid to the wounds. The nitrate of silver, however, as adopted by Youatt in his own person, has found the greatest favour."

Dr. Salter treats of "The Teeth as Passive Organs of Speech" in the second paper; and Drs. Fagge and Stevenson of "The Application of Physiological Tests for Certain Organic Poisons, and especially Digitaline;" and then we have the papers by Dr. Wilks, already referred to. The sixth, by Mr. Cock, is entitled, "A few Words on the Means to be Adopted for Establishing a Communication between the Bladder and the Exterior of the Body, when the Urethra has become Impermeable. The last Resource Available in Certain Cases." This paper opens with the following passage, in which Mr. Cock shows that he has no fancy for some of the methods recently proposed for treating stricture:—

"In this short communication I have no intention of alluding to the treatment of ordinary stricture; nor shall I yield to the temptation of criticising the various methods and appliances which, within the last few years, have been either invented or resuscitated for the purpose of restoring a narrowed urethra to its normal condition. Some ingenious mechanical contrivances cut, some tear, some burst, some are supposed to dilate with marvellous rapidity. My objection to their use is founded on a forty years' experience, which has taught me that such cutting, tearing, bursting, or rapid dilatation is often exceedingly mischievous in its effects, and fails in establishing a permanent cure, and that the object in view may be accomplished by much milder, surer, and safer means."

The object of the paper is to recommend tapping the urethra where it emerges from the prostate, in cases where it is impossible to either pass a catheter or tap through the rectum; and the following directions are given for performing the operation:—

"The only instruments required are, a *broad* double-edged knife, with a very sharp point; a large silver probe-pointed director, with a handle; and a canula, or a female catheter modified so that it can be retained in the bladder.

"The patient is to be placed in the usual position for lithotomy; and it is of the utmost importance that the body and pelvis should be

straight, so that the median line may be accurately preserved. The left forefinger of the operator is then introduced into the rectum, the bearings of the prostate are carefully examined and ascertained, and the tip of the finger is lodged at the apex of the gland. The knife is then plunged steadily but boldly into the median line of the perineum, and carried on in a direction towards the tip of the left forefinger, which lies in the rectum. At the same time, by an upward and downward movement, the vertical incision may be carried in the median line to any extent that is considered desirable. The lower extremity of the wound should come to within about half an inch of the anus.

"The knife should never be withdrawn in its progress towards the apex of the prostate; but its onward course must be steadily maintained, until its point can be felt in close proximity to the tip of the left forefinger. When the operator has fully assured himself as to the relative positions of his finger, the apex of the prostate, and the point of his knife, the latter is to be advanced with a motion somewhat obliquely either to the right or the left, and it can hardly fail to pierce the urethra. If, in this step of the operation, the anterior extremity of the prostate should be somewhat incised, it is a matter of no consequence.

"In this operation it is of the utmost importance that the knife be not removed from the wound, and that no deviation be made from its original direction, until the object is accomplished. If the knife be prematurely removed, it will probably when reinserted make a fresh incision, and complicate the desired result. It will be seen that the wound, when completed, represents a triangle; the base being the external vertical incision through the perineum, while the apex, and consequently the point of the knife, impinges on the apex of the prostate. This shape of the wound facilitates the next step of the operation.

"The knife is now withdrawn, but the left forefinger is still retained in the rectum. The probe-pointed director is carried through the wound, and, guided by the left forefinger, enters the urethra, and is passed into the bladder. The finger is now withdrawn from the rectum; the left hand grasps the director, and along the groove of this instrument the canula is slid until it enters the bladder.

"The operation is now complete, and it only remains to secure the canula in its place with four pieces of tape, which are fastened to a girth round the loins. There will probably be no escape of urine until the stilette is removed from the catheter.

"A direct communication with the bladder has now been obtained, and the relief to the patient will be immediate. Unless the kidneys have become irremediably disorganized, we may confidently anticipate a favourable result; and the restoration of the urinary organs will be more or less complete, in proportion as the obstructed portion of the urethra is more or less amenable to the ordinary judicious treatment of

stricture. The canula may generally be retained in the bladder for a few days, and if the state of the urine renders ablution necessary, the viscus may be frequently washed out. The canula may then be removed, cleaned, and reintroduced. A flexible catheter is sometimes more desirable and congenial to the feelings of the patient than a metallic canula.

“If the previous destruction has not been very great, and if the case progresses favourably, the swelling of the perineum and scrotum gradually subsides, the induration disappears, and the urinary sinuses become obliterated. The urethra may then be examined in the ordinary way, to test its permeability, and one may be agreeably surprised to find that the sound or catheter readily passes through the former stricture, until it strikes against the canula. An attempt may then be made to introduce a flexible catheter into the bladder, and its passage may, if necessary, be facilitated by passing a director through the perineum into the bladder, and guiding the catheter along its groove. The urethra once restored to its normal condition and calibre, the artificial opening through the perineum soon heals up, and, barring the liability of stricture to return if not attended to, the cure may be said to be complete.

“We must not, however, always expect so favourable a result. I have operated in several cases where the obstruction of the canal was complete, and its impermeability permanent.

“In such cases the patient is condemned to pass his water through the artificial opening in the perineum, unless a new passage should be bored to unite the upper and lower portions of the patent urethra—an operation which I have seldom or never known to be successful.

“The necessity of micturating through the perineum may seem to be a considerable hardship, but, with a little arrangement, the inconvenience is not very great; and be it remembered, that the man's micturition is merely assimilated to that of the other sex.

“To keep the artificial passage in a permeable state, it is generally necessary to pass a flexible bougie through the opening occasionally, and to retain it *in situ* for a few hours. The patient very soon learns to do this for himself.

“A few years ago there were at least half a dozen men on whom I had operated, and who were happy and comfortable, passing their water through the perineum. I have now under my frequent observation two men, on one of whom I operated twenty-five years ago, on the other twenty years ago, and both of whom are thankful for their condition.

“I have not found that this operation, with its result in a permanent factitious urethra, at all interferes with the sexual function, although it is of course a complete bar to procreation. One of the individuals alluded to above has, I am sorry to say, taken a somewhat unfair

advantage of his immunity from ordinary liabilities, by promiscuous and vicarious indulgence of his passions, and is well known as a gay Lothario and modern Don Juan among the fairer sex."

The next paper is by Dr. Pavy, on a case of "*Vitiligoidea Plana et Tuberosa*," the peculiar affection of the skin, first described by Drs. Addison and Gull; and the following one is by Mr. Towne, on "*The Physiology of Binocular Vision*," both of which are illustrated by plates; and then we have a very excellent essay by Dr. Habershon, on "*The Treatment of the Diseases of the Heart*," but not containing anything to require notice here; and the same remark applies to the paper that follows, in which Dr. Taylor records "twelve cases of poisoning, apparently from the use of copper for culinary purposes, in one of which death occurred, either from poison or disease, after nineteen days' illness;" and after an examination of all the circumstances Dr. Taylor concludes that the death was the result of natural causes. The paper is an admirable model of the method by which such cases should be investigated.

Dr. Salter contributes the next paper, in which he describes "two cases in which a very rare form of papillary tumour grew on the gum;" and Dr. J. Braxton Hicks contributes a most important and valuable paper "*On Amputation of the Cervix Uteri, and other Methods of Local Treatment in Cases of Malignant Disease of the Uterus and Vagina*." Dr. Hicks thinks the advantages to be derived from local treatment have not generally received as much attention as they deserve, and he gives the following statement of the objects to be attained in the treatment of malignant disease of the uterus and vagina:—

"We endeavour—1st. To eradicate or retard the disease.

"2. To check the excessive watery and bloody discharges which drain the patient.

"3. To destroy their offensive nature.

"4. To stop the violent bleeding.

"5. To remove the chloranæmia.

"6. To remove local pressure caused by some of the growths.

"7. To mitigate the pain.

"These are the points we desire to attain, and to a certain extent we are able to compass them all with the exception of the first, namely, the complete eradication of the disease. And if we, not too sanguine as to the total extinction of it, are content to do all that we can to arrest its

progress and remove its worst features, then I believe we are able to do much towards prolonging the life and promoting the comfort of our patient. And here I may remark that the following observations are based upon the results of cases treated in Guy's Hospital, a short report of which will be found at the end of these remarks, the details of which it is scarcely needful to add.

"With regard to the extinction of the disease, my experience has not been very favourable. I have seen only two cases in which such a result may be considered to have been even approximately attained. In one of these the patient lived three years and a quarter after the removal of a very large epithelioma of the cervix; in the other case, the last time I heard of her, the patient was alive four years after the operation. In these cases the diseased parts were very completely removed, and in each instance before the cervix was very much involved. Generally, however, these patients do not apply until the disease is fully established, and consequently not early enough to secure the full benefits likely to be derived from removal. Malignant disease in the uterus, as in other parts, assumes a variety of forms; and as our plan of treatment much depends upon the particular form of the disease, it will apparently be the most practical method of dealing with the subject if we describe the forms separately; and after each, the mode of treatment which appears most suitable. But there is one form in which in particular we can hope for but little advantage from treatment, especially in the early stages. This is the diffuse infiltrating form, which, invading more particularly the connective tissue at the onset, surrounds the vagina, rectum, &c., embracing the canals, but not projecting into them until a later stage. This does not break up so early as other forms, and the bleedings therefore do not occur before a very advanced period has been reached, and generally not until the disease has produced by pressure serious interference with the functions of the pelvic organs."

Dr. Hicks briefly describes the forms of the disease most amenable to treatment, and places first in the list the several varieties of epithelioma. These differ as to the relative amount of superficial and deep structures involved. Where the disease has extended to the deeper tissues of the cervix the effect of treatment, as regards the extinction of the disease, is less distinct, and it is only in the earlier stages that any hope can be entertained of obtaining a radical cure; but even in such cases there can be no great expectations of such a result. A valuable help, however, Dr. Hicks believes, is certainly obtained by the removal of the diseased parts, for we certainly do for a time remove all the secondary effects of the disease, and retard it so much that it has to begin again. Meanwhile

the system improves, the powers rally, and for a time the patient resumes, in many instances, a state of apparent health. In twenty-eight cases, of which he has records, every one of the patients made a marked improvement at once; this lasted for many months, in some instances for years, before they returned to their former state; sometimes the disease never re-appeared in the vagina or cervix; and though the patient may die of it elsewhere, her comfort is much increased. We shall allow Dr. Hicks himself to speak as to the best mode of operating:—

“So far as my own experience goes, I cannot say I have seen any satisfactory effects from the use of the more powerful caustics, particularly when the disease extends deeply. The disease frequently grows more rapidly than we can with safety apply them; they are tedious and painful in their action (I mean comparatively), and require great care in their application; besides, it is impossible accurately to define the extent to which they shall act. I have therefore discarded them for the purpose of the complete removal of the cervix.

“But in the use of mechanical means we have a much more prompt, decisive, and efficient plan, and by the employment of chloroform one of the great objections to its adoption, namely, the pain, is taken away. There are four modes by which it can be accomplished.

“The first is to draw down the uterus by vulsellum forceps or such like instruments, and cut the cervix off with the knife or scissors.

“The second is to employ the *écraseur* after drawing the cervix down.

“The third is to leave the uterus *in situ*, and remove the cervix by a chain *écraseur*.

“The fourth is to leave the uterus *in situ*, and remove the os by a curved chain, or by the wire-rope *écraseur*, or by a curved *écraseur* with a single stout wire.

“There is to my mind much objection to dragging down the uterus in this disease, because, on the one hand, there may be infiltrations of it above, which might be injured by the traction; and also because the forceps are apt to give way through the soft growths, and thus the uterus may retract during the operation, though this has been counteracted by passing a wire right through the cervix, whereby to hold it. But the principal objection is, that when the uterus is pulled down so low the anterior and posterior pouches of peritoneum and even the bladder may also be so far pulled down as to be exposed to risk. This has occurred, and I have seen it. It is surprising how exceedingly low down the posterior pouch is situated in some cases. The only safe way is to push the uterus up as high as possible, and then gauge the length of the portion projecting into the vagina; no greater length can be safely amputated.

“The objection to both knife and scissors, though of less force as regards the latter, if blunt, is that profuse hemorrhage may come on any time within a few days, as well as at the time of operation, which, besides being annoying and embarrassing to the operator, increases the already depressed condition of the patient. This objection does not apply to the employment of the *écraseur*, which should, if possible, be applied to the organ in its normal position. This is difficult to accomplish by the ordinary chain, which, having no flexibility in the lateral direction, cannot be applied round the cervix so as to give a transverse section. The endeavour has been made to overcome this disadvantage by curving the end of the instrument. This modification, although it is in some degree useful, is not convenient of application in consequence of its general rigidity; nevertheless, it is, perhaps, the most powerful instrument of the kind, particularly that form of it which has the click-clack movement.

“The most adaptable *écraseur* I have used is the one I have already described elsewhere (Vol. vii., p. 252). The only point to which it is especially necessary to look is to have a very strong rope for this work; one with seventy wires will, I believe, be strong enough for any cervix. A loose noose can readily be passed round the neck and tightened by the hand in any position required. The wire-rope will bend at any angle to the shaft of the instrument, which should be passed up in front of the cervix.

“I have never seen any bleeding from the use of this or of the chain *écraseur* except in one case, in which the operation was done a few weeks after labour; however, in this case the hemorrhage was not at all out of control.

“Now some have regarded this operation with a certain degree of dread. That fatal cases may arise is possible, but that they are rare I think is the fact.

“In all the cases in which I myself have operated, or at which I have been present, amounting to more than twenty-eight, I have never seen any fatal result nor any untoward symptom whatever.

“In some the line of division was through healthy, in some through affected tissues, but with the same result.

“I am therefore inclined to think that the amputation of the cervix is a less dangerous operation than some have supposed, at any rate, in connexion with our treatment of this disease.

“To show how little irritation ensues from amputation, I may mention that I removed a very large cauliflower excrescence from a woman pregnant four months without inducing uterine action or any symptom whatever, and without hemorrhage.

“There is, perhaps, one slight disadvantage in the use of the *écraseur*, which is that the compression of the tissues does not always subside, and that the canal of the cervix remains somewhat occluded, causing

dysmenorrhea. This can readily be removed by dilatation after recovery, but it is only occasionally that it occurs, and it can only be important in those who have not passed the menstrual epoch.

"To sum up in a few words, I would recommend in all those cases in which the mass is large, and more or less of a mushroom shape, that the cervix should be removed, if possible, *in situ*, and by an *écraseur* adapted for that purpose. The results are—marked improvement in the patient's health; removal of the fetid and bloody discharges, and of their effects on the system; a retardation of the disease for a considerable time; and this without much danger as far as the cases to be reported show."

The next form is the encephaloid having a broad base, and filling up the vagina more or less completely. This mass may be broken up by the finger, but if the wire-rope can be passed round it is better to do so and remove the whole, and then apply a powerful styptic; and in cases of epithelioma, even in an early stage, if the cervix be too short to allow of amputation, the use of styptics is recommended. For this purpose *tr. ferri muriatis* is suggested, or more particularly the anhydrous sulphate of zinc. We have ourselves been in the habit of using nitric acid very freely in such cases, and the solid perchloride of iron, and have seen very great benefit from their use. We have also used these preparations with advantage in the next form Dr. Hicks describes, viz., where the disease is much advanced, and with outgrowths of one part we have excava-tion of another, the fetor of the discharges being excessive. Here Dr. Hicks uses *tr. ferri muriatis* slightly diluted, or a concentrated solution of alum with tannic acid almost to the consistence of paste, or the dried sulphate of zinc made into a paste with glycerine. Carbolic acid, he thinks, might be employed, but he has no experience of it, and where there are vascular outgrowths of a polypoid form he removes them by torsion or the *écraseur*. The paper concludes with the narrative of fifteen cases in which amputation of the cervix was performed. The next paper is "On a Case of Intermittent Hæmatinuria, by Dr. W. W. Gull;" and then Mr. Birkett continues his "Contributions to the Practical Surgery of New Growths or Tumours," this series (V.) being devoted to Cartilaginous and Bony Growths; and Dr. Habershon details a "Case of Abdominal Tumour, in which Cancerous Disease of both Supra-renal Capsules simulated Disease of the Spleen and Lumbar Glands."

Acute Rheumatism is the subject of four papers—in the first, Dr. Stevenson gives the results of his investigations as to the

condition of the urine in this disease, from which he draws the following conclusions:—

“1. In acute rheumatism, when the excretion of solid materials in the urine is large, the patient makes, other things being equal, a rapid recovery; on the other hand, in lingering cases the excretion of solids is usually small.

“2. As in this disease the urine is invariably scanty in bulk, but (generally from this cause only) of high density, a useful guide to the progress of the case may probably be found by diluting the urine to the normal bulk, and then ascertaining its specific gravity. According as it is now of high or of low density will the progress of the disease probably be favourable or unfavourable.

“3. Though the excretion of urea is usually greater during the height of the disease than during convalescence, this is not invariably the case; the reverse sometimes occurs. Though the excretion of urea is greater during the disease than during the early stage of recovery, the urea in the former stage seldom very much exceeds in amount the normal physiological excretion.

“5. The uric acid is always much increased whilst the disease continues.

“5. The phosphoric acid is generally in greater amount during the progress of the disease than during recovery, but the quantity of this substance rarely much exceeds the quantity secreted in health.

“6. The secretion of sulphuric acid is generally increased, and often largely. In one instance more was excreted during recovery than during the acute stage of the disease. The amount of this substance excreted is very variable.”

Dr. G. Owen Rees describes cases of acute rheumatism treated with lemon juice, the average duration of which, when not complicated, was 6·8 days; and while he believes that complications are not very common after patients have been bedded and well cared for, whatever may be the plan of treatment adopted, he asserts that when complications are present he knows no internal remedy that assists the patient so well as the free use of the juice. Dr. Barlow introduces his cases with the following remarks:—

“There are few practical questions upon which, as it appears to me, there has been greater diversity of opinion amongst medical men than that of the treatment of acute rheumatism. I do not at present allude so much to the now obsolete practice of indiscriminate bleeding and calomel, as to the later modes of treatment by chemical action, by elimination, and by merely expectant treatment. I am not prepared to say whether

chemical remedies produce their effect by the decomposition or neutralization of the peculiar acid present in the blood in rheumatism, but it is nevertheless true that the most successful of these, the lemon-juice, contains a salt of potass, which may be an eliminant, and that citric acid in its uncombined state has not the same efficiency. The occasional success of the expectant treatment, or the giving no active medicine whatever, has been regarded by some as a proof of the inutility of all the other modes of treatment, and by some as an argument against the use of drugs in the treatment of disease in general. What, however, I would urge is that no one of these modes of treatment is most applicable to all cases, and that the success of the expectant treatment only shows that rheumatic fever, like all acute disease, is capable of spontaneous recovery; and that where this recovery is proceeding steadily and safely the officious use of drugs is to be avoided, and that the skill of the experienced practitioner never appears to greater advantage than in the discrimination of the cases which do not require his interference; but that, on the other hand, many cases will not proceed thus favourably if left to themselves, and in such instances there is occasion for the use, not of a specific remedy, for as yet we know of none such for rheumatism, but of medicines adapted to the exigencies of the particular case."

Dr. Sutton gives a "Second Report on the Cases of Acute Rheumatism treated in the wards of Guy's Hospital, with Remarks on the Natural History of the Disease." In the last number he reported several cases treated, for the most part, by mint water alone, and he now says that his subsequent experience has tended to confirm what he had already stated. The following extracts will show the conclusions drawn from the cases now recorded:—

"It may here be noticed that all the above cases were treated, for the most part, with mint water only. When the patient was suffering very much pain a grain or half a grain of opium was ordered at bed-time, or twice a day, and when the bowels were confined a Seidlitz powder, with a dose of castor oil, was prescribed.

"The average duration of those cases which were not accompanied with marked heart disease was nine days, and of those with heart affection of no great severity about eleven days. In the case attended with severe pericarditis and pleuritic effusion the duration was thirty-two days.

"It will probably be admitted that the above record affords evidence to prove that a certain number of cases of rheumatic fever go on to recovery, and terminate in convalescence within from ten to twenty days. They also show that a patient may have extreme rheumatic pericarditis, and at the same time considerable pleuritic effusion on the left side, and

yet that he may progress very satisfactorily, although no drugs be given, with the exception of a small dose of opium once or twice a day, this being prescribed with the object of relieving pain and quieting the nervous system, rather than of exercising any special influence over the inflammation of the serous membranes. The same thing may be said of endocarditis. These cases, moreover, prove that well-marked and even severe rheumatic inflammation of the heart may entirely subside and leave the heart apparently healthy, and this with little or no assistance from drugs.

“In all the cases above recorded the symptoms were well marked and acute. Several of the joints were affected. There was pain in the joints, and also redness and some swelling. The pain was often very acute, the patient lying on his or her back, quite helpless, and unable to move. The tongue was thickly coated with yellow fur. The skin was perspiring freely, and in some cases profusely, and the rheumatic odour was well marked. The pulse was full, and the face flushed. The urine was high coloured, the quantity passed in twenty-four hours was diminished, and the specific gravity was increased, ranging from 1025 to 1032.

“Cases belonging to this class tend to do well without the aid of any drugs; the patients simply require absolute rest in bed and a milk diet, and the symptoms usually subside in eight or ten days when unaccompanied by any heart disease. But, in order that they may do well and recover speedily, it appears to be absolutely necessary that the patients should rest in bed, that they should not be allowed to get out of bed for any purpose, and that the diet should be limited to light nutritious food.

“It is interesting to notice how rapidly, even suddenly, the symptoms subside in such cases. Of this we have an example in the case of David D—, who had great pain in several of his joints, and was unable to move in bed. On the tenth day, about 6 a.m., the pain, as he stated, suddenly left him, and when we saw him next morning he was suffering much less, and was able to move all his limbs.

“It is in cases of this kind that the remedies recommended by various physicians have appeared to be of so great service.

“There is also another class of cases which tend to do well, but in which the duration of the attack is much greater. We refer to cases attended with the following symptoms:—There is more or less pain in the joints; the skin is cool, and not generally perspiring, except during sleep; the tongue is slightly furred; the appetite is often good. The pulse is not full. The urine is often of a natural colour, and very soon becomes alkaline; its specific gravity is not at all, or very little, higher than normal. In these cases, nevertheless, there are often physical signs showing that the heart is affected with rheumatic inflammation.

“There is a third class of cases in which the power of recovering is

feeble, and which therefore require the aid of medicine. We refer to patients who have had rheumatic fever, and whose hearts are diseased in consequence. In such cases, as is well known, the rheumatic attack often recurs. If the heart has been very much damaged the joint symptoms are often slight and the chest symptoms severe. Cases are seen in which the inflammation in the joints is so little that it is difficult and even impossible to decide whether the changes in the heart are due to rheumatic fever. There are two things, however, that usually assist us in arriving at a conclusion. The dyspnoea has markedly increased, and often comes on in the course of a short space of time, that is, in two or three weeks. There is a history of a previous attack of rheumatic fever, and on inquiry we learn that there is pain, though it may be but little, in one or two joints. Experience has shown that such cases run a rapid course, and not infrequently terminate fatally.

"In other cases, as is well known, the *post-mortem* examination often shows some recent pericarditis or endocarditis which has supervened upon old disease of the heart.

"For such cases as these the expectant plan of treatment is totally inadequate; they do not progress satisfactorily when treated by rest and light nutritious diet only; they require the assistance of some drug.

"We have briefly recorded the last case not only because it is a good illustration of a certain form of rheumatic fever, but also to show the condition of the heart.

"In the last number of the 'Reports' we endeavoured to point out that it is often very difficult and even impossible to say whether the heart has or has not been materially injured during rheumatic fever. At the time we referred to a case which had occurred in Guy's Hospital. The patient died of heart disease, apparently the result of rheumatic fever, and the *post-mortem* examination showed that the pericardium and endocardium were healthy, but the muscular tissue of the heart was diseased. The case was similar to the one which we have just mentioned. In both these cases the pericardium and endocardium were healthy, and showed no signs of former disease. For the left ventricle to become so dilated would necessarily require time. Hence we are led to infer that there would have been no bruit during the rheumatic attack to indicate that the part was injured, unless we assume that there had been some endocarditis or pericarditis, all traces of which had disappeared, but this would be simply an assumption.

"The urine during the acute stage was generally high coloured, diminished in quantity, and of increased specific gravity. In some cases there was a copious deposit of lithates when the urine cooled, but this was by no means constant. When the symptoms were acute the urine was acid. In the subacute cases the urine was occasionally noticed to be neutral, and sometimes alkaline. With respect to the alkalinity of the

urine, we would observe that it is not so often that it is alkaline when passed as that it becomes so in an hour or two. We have several times seen the urine become alkaline in this way after it had been voided. When the symptoms are acute the urine has been noticed to remain acid for many hours, and even three days after it had been voided, thus strikingly differing from the urine passed in the subacute cases, which, as we have already stated, becomes alkaline quickly after being voided. It may have been noticed that in the sthenic cases the urine is, during the acute stage, usually of high specific gravity, and that it continues so while the acute symptoms last. As, however, the pain in the joints, heat of skin, coated tongue disappear, the urine falls in specific gravity, and, by degrees, as the patient recovers, falls lower and lower until a very low point is reached (in one case as low as 1005), and then it rises again to its normal specific gravity.

“A question may be asked—Does the urine always become alkalized as the attack subsides? That it often does, it would be difficult to dispute, but it certainly does not always. In some of the cases that have done very well, we might almost say, the best of any, the urine did not become alkaline; but day by day it remained acid.”

The remaining papers in this volume are, one on Excision of the Spleen, by Mr. Bryant; one on the Spontaneous Cure of Aneurism of the Aorta, by Dr. Moxon; Cases connected with Obstetric Jurisprudence, by Dr. Braxton Hicks; one on Operations on the Larynx, by Mr. Durham, in which two cases are recorded where the larynx was laid open by an incision through the thyroid and cricoid cartilage, with successful results. Mr. Bader contributes a paper on Diseases of the Retina, with Remarks on its Structure and Normal Conditions; and the volume closes with Clinical Remarks, by Mr. Hinton, on Perforations and some other Morbid Conditions of the Membrana Tympani.

II. *Clinical Lectures and Reports by the Medical and Surgical Staff of the London Hospital. Vol. III.*—This series was commenced in 1864, and has now reached the third volume. As its name implies, it is a record of the clinical instruction given to the pupils attending the hospital, rather than of elaborate essays or “*studies*,” and fortunate are the pupils whose lot has fallen on times when they can obtain such instruction. It will not, however, be necessary for us to analyse all these lectures. We will instead use the space at our disposal for noticing some of the more important points touched upon. There is one feature, however, in these

volumes that we must first express our pleasure at seeing, viz., a series of reports of cases drawn up by students themselves. It appears that medals are given to those students who not only show the greatest proficiency, but who have worked best in the hospital wards, and these admirably reported cases have been selected from among those sent in by the different candidates for the prizes. Very fully do they prove the good effects of the system.

Mr. Adams contributes a case of femoral aneurism, in which he ligatured the external iliac artery. The aneurism extended upwards under Poupart's ligament. The ligature was applied on 17th November, came away on the 16th December, and the woman left the hospital at her own request on the 10th January, the wound being "almost closed." Pulsation in the tumour never returned as long as she was in the hospital; but after she left the tumour began to be painful, and soft fluctuation could be distinguished, and she died after two or three attacks of arterial hemorrhage, which appeared to come from the lower part of the artery. No examination of the body was obtained.

The next paper is a very full exposition of the principles of spectrum analysis, by Dr. Letheby, and then we have a lecture on diabetes by Dr. Fraser. Mr. Hutchinson next contributes a lecture on Herpes Zoster, in which he invests that common and rather trivial affection with great interest. He adopts Professor Barendsprung's views as to the nature of the disease, that it is an instance of inflammation of the skin, produced directly by nervous influence, a symptom displayed by the skin of disturbance beginning at some part of a nerve-trunk, or possibly in the very centres themselves; and while Mr. Hutchinson believes it is not an exanthem, he shows it is not simply a neurosis; for, if it were, why should it not relapse—why should it have stages, and how could it protect the individual from a second attack? He suspects that it belongs to neither of these classes; but that it constitutes a new group by itself, and that whoever will succeed in unravelling the mystery that at present surrounds it, must at the same time make a discovery in physiology. The leading features of the disease on which these propositions are founded are discussed *seriatim* by Mr. Hutchinson, and he shows—

"That herpes zoster may occur at almost any age, and if we except early infancy, is equally frequent at all periods of life. . . .

"That the two sexes are equally liable to its attacks. . . .

"That it is not possible to denote any special condition of general health which predisposes to its attacks. . . .

"Herpes zoster is not contagious. . . .

"As a general rule herpes zoster does not occur twice in the same individual.

"I have myself only one instance in which a patient suffered twice from it. A very few others are on record. In all such the interval between the two attacks has been very long (from 20 to 30 years). Probably these instances of second attacks are not more frequent relatively to the actual frequency of the several diseases, than are second attacks of any of the exanthems, and they appear to occur under precisely similar circumstances, *i.e.*, with long intervals. In my own case (see Case VI., p. 82) there are two exceptional features, the occurrence twice and the asserted symmetry of the disease in the first attack. Whether it is probable that the diagnosis in the first instance, was incorrect or not, I must leave in some doubt.

"In true herpes zoster the eruption is (with the very rarest exceptions) never symmetrical.

"I have seen but one case in which the eruption occurred on both sides. In one other case which came under my observation, in a man, the rash was on the right side of his chest, and at the same time on the left frontal region. Several writers on skin-diseases, assert that they have met with symmetrical herpes. There is a rare form of syphilitic rash, so closely similar in all its features to the true zoster, that it is very possible that mistakes may have occurred.

"Of this remarkable affection, hitherto undescribed, and which I may call 'Syphilitic shingles,' I have seen three or four examples. In the last I was able to bring the patient before you. The points of diagnosis are, that the syphilitic form is always symmetrical, seldom limited to the chest, and does not disappear nearly so quickly as the true shingles. . . .

"Herpes zoster occurs with equal frequency on the two sides. . . .

"That herpes zoster generally observes closely the recognized anatomical distribution of some nerve. . . .

"That the nerve affected is usually a cutaneous one, but that this is not invariably nor exclusively the fact. . . .

"The chief phenomenon of shingles is the development of a crop of vesicles on the skin, denoting an inflammatory disturbance of nutrition in the part of skin affected. That this disturbance of nutrition may take place in other and deeper structures, is rendered probable by the circumstances that not very unfrequently its subjects complain much of severe deep-seated pain; muscular stitches in the side are not uncommon; in some cases, especially on the forehead, the amount of swelling is such as to prove that the subcutaneous cellular tissue is extensively affected. I

have, however, in addition to these facts as presumptive evidence, the great good fortune of being able to produce some positive facts. The eye (so invaluable to observers of the inflammatory process on account of the transparency of part of its covering) is again the organ which supplies me with the positive evidence referred to. In the case of a man who came under my care at the Ophthalmic Hospital on account of herpes frontalis, there appeared reason to believe that the whole ophthalmic division of the fifth nerve was implicated, and the nutrition of the eye itself suffered disturbance. This case is so important that I shall read it in detail. (See Case I., p. 76).

"This case was the first in which I witnessed undoubted iritis, and, I believe, the first on record. Since then I have seen three or four others, and feel no hesitation in asserting that the inflammation of the iris stands in precisely the same relation to the nerve disturbance as does the eruption in the skin. Usually the cornea becomes extensively ulcerated (superficially) at the same time as the iritis occurs, but in one instance we had had iritis whilst the cornea remained quite clear. The iris in these cases will not respond to the influence of atropine. In severe cases the eye is usually much damaged.

"That there is no reason for supposing that herpes zoster can be produced by artificial irritation of nerve-trunks. . . .

"Can unilateral herpes be produced by internal medication?

"I have repeatedly seen herpes zoster occur in patients, whom I had been treating for other skin-affections by means of arsenic. This has happened so frequently, that I have been inclined to suspect that it was more than a coincidence.

"That the disease runs a definite course. . . .

"Certain other very important questions arise in the investigation of this disease.

"Why are the dorsal nerves, and especially the third or fourth dorsal, so much more frequently affected than any others?

"Why does the eruption so frequently occur in manifest connexion with the distribution of certain branches of the first division of the fifth nerve, whilst we have so few instances in which the second or third divisions of the same nerve are similarly affected?

"Why are the forearms and the legs so rarely affected?

"Does the nerve-irritation, which every one will admit constitutes at any rate one stage in the disease, begin centrally, or at some part of the nerve-trunk external to the centres?

"What share has the vaso-motor nerve in the production of the symptoms?

"In concluding this lecture, I must beg you to pardon its fragmentary and inconclusive character. I have brought forward only doubts and difficulties. My end is gained, however, if I have succeeded in con-

vincing any that there is a special mystery enveloping the origin of this disease; that its clinical study offers an almost unworked, and very hopeful field for scientific investigation; and that whoever shall succeed in finding the right clue as to the mode of production of herpes zoster, will, in all probability, make, at the same time, a valuable discovery in physiology."

The paper concludes with a tabular analysis of 63 cases of Herpes Zoster, and 14 of Herpes Frontalis.

Dr. Brown and Dr. Fraser each record a case of poisoning from the external use of belladonna—in the first case in the form of a liniment, containing two drachms of the liquor belladonnæ in two ounces of soap-liniment; and in the other of a lotion, containing half a drachm of the extract in an ounce of water. In both cases there was dilatation of the pupils, with indistinctness of vision and mental disturbance. This latter was so great in the first case that the patient, a nobleman, staying at an hotel, was on the point of being removed to an asylum, when his own medical attendant fortunately visited him, and discovered the true interpretation of the symptoms.

Two cases of acute suppuration of the knee-joint, in which recovery with free motion ensued, are recorded by Mr. Carter. In the first case, the joint of a healthy man, a miner, was injured by a blow, and injudiciously treated, till suppuration ensued. A free incision was now made, and the limb put up with a rigid splint on the back, and a starch bandage. The second case was in a young woman, who had been seduced, and left her home in consequence, and obtained a scanty subsistence by needlework. A few days after giving birth to a puny infant, her right knee-joint became inflamed. Mr. Carter first saw her at the end of three weeks, when a free incision gave exit to a large quantity of pus, and large masses of pus-clot. The same apparatus was now applied, and though her progress was much slower than in the first case, the same result was obtained—a perfect restoration of the functions of the joint, which Mr. Carter attributes to the firm mechanical support. He lays special importance on having the splint so narrow that while it secured immobility of the joint, it did not throw off the grasp of the bandage, or interfere with its compressive action on the limb; and next in importance was the slinging from a cradle which, by allowing changes of position of the body, greatly promoted sleep, and prevented the occurrence of bed-sores.

Dr. Daly records a case in which the symptoms of a large

abdominal aneurism were present, and cure resulted. The treatment under which this happy result occurred was absolute rest in bed (the patient being scarcely allowed to speak), a nourishing, unstimulating diet, with as little fluid as possible, ice applied to the tumour, and the acetate of lead taken internally.

A case in which gastrotomy was performed for stricture of the œsophagus, under the care of Mr. Curling, is the subject of a short communication. The patient was 57 years of age, said to be only four weeks ill on 30th January, 1866, when admitted to the hospital. He was much emaciated, face sallow, haggard, and anxious; he complained much of hunger, thirst, and craving at epigastrium; any solids he was unable to swallow, and fluids with difficulty and much pain. At length he ceased to be able to get even fluids down; but he would not consent to an operation till the 16th March, when he was in a state of great prostration. An opening was now made into the stomach through the epigastric region, through which he was fed. The feeling of hunger and thirst were relieved, and soon reaction set in; but he died of exhaustion 32 hours after the operation. On examination after death, a stricture of the œsophagus was found. There was no peritonitis.

Dr. Down examines the effect of marriages of consanguinity in relation to degeneration of race in the next paper. He considers the question chiefly in reference to idiotcy, 1,138 cases of which his notes refer to; but as some element of doubt attached to some of these, he bases his argument on 753 only, whose histories were perfect. From an analysis of these, Dr. Down is led to believe that relationship of parents, *per se*, is not the cause of the idiotcy, but that other causes were operating which were merely intensified by the relationship. Consanguinity has doubtless, he says, the power of aggravating any morbid tendency, as it has of perfecting any good quality, and he believes it is only one of the causes, and not the most important one, in the production of deterioration.

Mr. Hutchinson makes some observations on the results which follow the section of nerve-trunks, as observed in surgical practice. He gives the particulars of seven carefully observed cases, in which the trunks of the ulnar and median nerves were completely or partially divided, and in his comments on the series first speaks of the anatomical distribution of the nerves of the hand; and he affirms, with Swan, that the radial does not pass nearly to the ends of the fingers, as is taught by most anatomists. On the thumb, he says, it passes as high as the root of the nail; on the fore finger as

far as the middle of the second phalanx; on the middle and ring fingers not further than the first phalangeal joint. The distal parts of these fingers are supplied, both back and front, by twigs of the median, which curve backwards and encircle the fingers. Next to loss of sensation the most remarkable result is diminution of temperature. In case V. there were ten degrees of difference between the little finger of the hand from which the nerve supply had been cut off and that of the other; and it appears that, while a paralyzed part can be cooled to almost any extent, it cannot be raised by artificial heat beyond a certain point, and that point much below the maximum of its uninjured counterpart. Mr. Hutchinson is inclined to attribute this loss of temperature to a diminution in the nutritional changes in the parts, a paralysis, so to say, of the *vis a fronte* of the circulation.

In five out of the seven cases the paralyzed fingers became inflamed soon after the accident. The kind of inflammation was so similar in all, and so remarkable in some, that it seems impossible to believe it was the result of accident, and not in direct connexion with the nerve lesion. In no case did the tendency to inflammation persist long, and the parts were capable of good repair.

Injuries to the spinal column and its contents form the subject of two very valuable papers, one without any name, and the other by Mr. Hutchinson. We shall merely extract from this latter two passages:—

“There is, I think, room for much doubt as to whether the usual practice of relieving the bladder by the catheter is judicious. In a few cases where the fracture is in a certain part of the lumbar region the bladder is involved in hyperæsthesia, and the pain caused by its distention necessitates interference. These, however, are very rare, and, in almost all cases, the bladder fills without causing any discomfort whatever, and when full runs over. After a few days it regains a certain amount of tone, and empties itself very frequently. At this stage we have troublesome incontinence, and but little retention. Now, if the catheter be used from the first, inflammation of the urethra and bladder is, I think almost certain to occur, and the urine will become loaded with pus and mucus. I suspect that cystitis is, in some cases, one of the influences which brings about the patient's death by exhaustion. Not unfrequently ulcerations of the mucous membrane of the bladder occur. There is a specimen in the Museum of a bladder and rectum from a fractured spine case, in which a fistula passes from the membranous urethra into the rectum, no doubt, in connexion with the use of catheters. Why should cystitis thus constantly follow the use of catheters? Seeing that there is no impediment to the

introduction of instruments, that they give the patient no pain, and are used with the greatest ease, why should they produce so much more irritation than we usually observe when they are employed for other reasons? I think we must admit, that it is probable that the mucous membrane of the bladder when paralyzed, is in a state specially prone to inflame, just as the eye is, after paralysis of the fifth nerve. The practical question before us is, whether to permit the retention to continue until overflow takes place, is less likely to cause this cystitis than is the use of instruments. My own experience has been in favour of non-interference, and I quite intend, in the future, to make a full trial of this plan.

“In justification of the strong opinion which I have already expressed against operations with the intention to elevate depressed portions of the bone, I must say a few words more. My chief reason is that by doing so, you convert a simple into a compound fracture, and add the risks of pyæmia, together with those of spinal meningitis. Then, I urge that depressions of bone very rarely exist, perhaps not once in twenty cases, and that it is utterly impossible to select the case. The amount of displacement apparent externally will not help you much, for this may be very great, and may be due to such a twist of an entire vertebra as it will be quite impossible for you to replace. The irregular form of these bones makes it exceedingly difficult to effect the rectification of a displacement. I must insist that operations for injuries to the spinal column are not to be fairly compared with those on the skull. In the latter region, you have to deal with large smooth superficial surfaces of bone, you can easily appreciate irregularities and easily gain access to them. In the former the opposite is the fact. Nor, I believe, do clinical results as yet hold out any encouragement to those operations. This latter part of the subject I shall, however, leave for the present.”

There are many other most valuable papers in this volume that we have not noticed, chiefly because no analysis could do them justice; among the rest, the reports on the late cholera epidemic, and the general statistics of the hospital, which are given in a very full and excellent form.

III. *Saint Bartholomew's Hospital Reports*, Vol. ii.—This series commenced in 1865, and we have now before us its second volume. It contains 26 papers, all of them of a very high order, and of great value, yet of a different character from those in either of the other works we have noticed, inasmuch as many of them are essays rather than clinical reports, and give us the results at which the observers have arrived, without showing us the steps in the process, or the facts from which the inductions have been drawn—a peculiarity more marked in the second volume than in the first.

In the first article Dr. Reginald Southey continues his account of the Minute Anatomy of the Kidney; in the first volume he gave a good account of the minute structure of the healthy organ, and now he discusses its pathological anatomy, intending to recount in future papers, from clinical observation in the wards, what symptoms during life accompany those lesions most commonly observed after death.

Congenital Cystic Tumour is the subject of the second article by Mr. Thomas Smith. These tumours are analogous to the hydroceles of the neck, to which attention was first drawn by Professor Maunoir, of Geneva, in a paper read at the Royal Institute of France, in 1815; but as Baron Percy presented a very unfavourable report on the memoir to the Academy of Natural Sciences in 1817, neither Maunoir's observations nor the true nature of the disease seem to have been known, in these countries at least, till the late Dr. O'Beirne, of this city, drew attention to them in the pages of this Journal in 1834. Mr. Smith refers, in his introductory remarks, to Dr. O'Beirne's paper, but has evidently not read it, as he retains a typographical error in the reference to it that occurs in Mr. Paget's lectures. It is, however, more especially to the congenital form of the affection Mr. Smith alludes, and he gives the particulars of eight cases that occurred under his own observation. The tumours are formed of an admixture of cystic and solid substances in varying proportions, and the cysts vary in size from that of a pea to a large orange. The solid element is a species of connective tissue, very tough, succulent and fetal in its character, having the appearance and consistence of the tissue surrounding the umbilical cord. The tumours, Mr. Smith believes, are always situated beneath the muscular fascia, and generally freely moveable under the skin, but their deeper connexions may extend widely and deeply beneath the muscles and around the deep vessels. They are generally easily recognized, but may often be mistaken for fatty growths or large subcutaneous nevi; when situated over the median line of the spinal column, it is sometimes difficult to distinguish them from spina bifida, but the skin covering them is healthy, and not discoloured and attenuated, as in spina bifida, and there is, of course, no indication of deficient innervation of the trunk and lower extremities. The disease may be situated anywhere in the cervical region, on the trunk, about the gluteal region and perineum, and in internal organs, but Mr. Smith has never met with it or read of it in the extremities. In four cases under Mr. Smith's care a spon-

taneous cure took place, and also in two others recorded by Wernher and Tofft, but in some situations, or from their rapid growth, remedial measures may be urgently required. The principal means that have been used are enumerated by Mr Smith as follows:— (a) Puncture. (b) The application of so-called discutients. (c) Laying open the cysts. (d) The injection of Iodine. (e) Complete removal by the knife. (f) Setons. Of these the first and second are little more than palliative; the third, fourth, and fifth are scarcely applicable in the case of infants, and the last, or the seton, is that in which Mr. Smith, along with Maunoir and O'Beirne, places most confidence; but he records the opinion of Gurlt, who thinks the seton inapplicable and dangerous, and of Storch, who considers it not particularly satisfactory. In four cases Mr. Smith used the seton, introducing but a single thread of fine silk; in one of these the tumour quite disappeared, but in the others some trace of it still remained. No mention is made of the drainage tube; in a case lately under our own care we used this method of treatment, and with the most beneficial result.

In Art. III. Dr. Newman gives a good digest of our knowledge of Diphtheria; and in Art. IV. Mr. Savory discusses the Relation of Phlebitis and Thrombosis to Pyemia, and shows that each of these affections may exist without being followed by pyemia, and that pyemia still oftener occurs without any evidence whatever of being preceded by an affection of the veins. Dr. Turner relates, in Art. V., a Case of Intra-Cranial Cyst containing hair, and also a case illustrating the Physiological action of Iodine. Art. VI., by Dr. Warter, is on the Use of the Thermometer in Disease; and in the following one, "On the Treatment of Enlarged Bursa over the Patella," Mr. Savory recommends a plan he has adopted in many cases with uniform success, and, though no novelty, he thinks it has not received the attention it deserves. It consists in puncturing the bursa with a lancet, and making firm pressure on it by pads and strapping, so as to keep its walls in contact after the contents have been evacuated.

"On Gouty and some other Forms of Phlebitis," is the title of Art. VIII., by Mr. Paget. In the opening paragraph Mr. Paget says he has met with certain cases of phlebitis, the like of which he cannot find on record. The following extract gives an account of gouty phlebitis:—

"Gouty phlebitis is far more frequent in the lower limbs than in any

other part; but it is not limited to the limb that is, or has been, the seat of ordinary gout. It affects the superficial rather than the deep veins, and oftener occurs in patches, affecting (for example) on one day a short piece of a saphenus vein, and on the next day another separate piece of the same, or a corresponding piece of the opposite vein, or of a femoral vein. It shows herein an evident disposition towards being metastatic, and symmetrical; characters which, I may remark, by the way, are strongly in favour of the belief that the essential and primary disease is not a coagulation of blood, but an inflammation of portions of the venous walls. The inflamed portions of vein usually feel hard, or very firm; they are painful, aching, and very tender to the touch; such pain, indeed, often precedes the clearer signs of the phlebitis, and not rarely begins suddenly. The integuments over the affected veins (where they are superficial), are slightly thickened, and often marked with a dusky reddish flush. When superficial veins alone are affected there may be little œdema; but when venous trunks, as the femoral, the whole limb assumes the characteristics of complete venous obstruction. It becomes big, clumsy, featureless, heavy, and stiff; its skin is cool and may be pale, but more often it has a partial slight livid tint, with mottlings from small cutaneous veins visibly distended. The limb thus enlarged feels œdematous all through; but firm, and tight-skinned, not yielding easily to pressure, and not pitting very deeply. By this state almost alone the disease must sometimes be recognized, for it may be very marked when only a small portion of vein is affected, and that (as the lower part of the popliteal) so deeply seated as to be scarcely felt."

Mr. Paget refers to some cases of pulmonary embolism in connexion with gouty phlebitis, one of which proved fatal, but he does not think it more frequent in this form than in others, and as to treatment says he has never seen benefit from active measures, such as leeches, mercury, &c. He relies on diminution of food and stimulants, on alkaline drinks, increase of water drinking, rest and warm fomentations.

Two cases of widely-diffused phlebitis, not necessarily gout, are related in this paper. In one, the only case of the kind Mr. Paget has ever seen, the disease extended through large portions of the branches of both the superior and inferior venæ cavæ; this proved fatal. In the other the disease was not so widely spread, and the patient recovered.

In another class of cases, gouty or not, a single small portion of a great vein becomes obstructed, of which three examples are given, a marked feature of which was the apparent and, Mr. Paget believes, real enlargement of the muscles of the limb; and he quotes a letter

from the late Professor Laurie, of Glasgow, who describes himself as having had this form of the affection, causing the calf of the affected leg to measure an inch more than the other, and though the disease began in 1831 the enlargement still existed in 1858.

Mr. Callender contributes Art. X. on Rupture of the Axillary Artery in reducing Dislocations of the Shoulder Joint. He relates a case in which this accident occurred in reducing a dislocation six weeks old, and where, after some time, he cut down on the artery, and tied it above and below the laceration, having first turned out the clot. For four days the patient did well, but then the arm became gangrenous, and the man died on the 9th day, somewhat suddenly, with symptoms of pulmonary embolism. Mr. Callender gives the history of another case, in which Mr. Paget performed the same operation, and the patient recovered. He has collected thirty-one cases of rupture of the axillary artery, and gives the particulars, in a tabular form, at the end of his paper.

Mr. Vernon gives an interesting Case of Congenital Myopia, with a faulty perception of Colours, limited to a small portion of one Retina, of recent origin; and the same writer describes a Case of Wound of the Right Lumbar Region, involving and laying bare the Kidney, in which a complete recovery was made. Mr. Coote contributes two papers, one on Rectangular Talipes Equinus, and one on the Pathology and Treatment of Joint Disease. We shall have occasion to notice his views at an early date, in reviewing his recently-published volume on Joint Diseases. Chronic Inflammation of the Cancellous Structure of the Bone is the form of disease dwelt on in this paper. Another paper on Joint Disease is contributed by Mr. Howard Marsh, who writes on the Prejudicial Effect of Inter-Articular Pressure, and recommends the application of continuous extension by means of a weight, to oppose the muscular action which presses the surfaces of the joint together. In the following passage we have an account of the method of using the weight:—

“In spite of Sir Benjamin’s advocacy, and although it has been used from time to time by many of the highest surgical authorities, the weight has failed to come into general use in England; probably for the want, which has till recently existed, of some simple and safe method of adjusting it to the limb. American surgeons, however, employ the weight very largely in the case of all the joints; and by the help of the ‘strapping stirrup,’ invented by Professor Pancoast, of Philadelphia, are enabled to apply it with the greatest facility. Although Pancoast’s stirrup is very

commonly adopted in England for making extension from the foot by fastening this to the end of the long splint, in the treatment of fractures of the thigh, I shall venture to describe the manner of its application when the weight is required for disease, either of the hip or the knee. A long piece of stout adhesive plaster, from two to four inches wide, according to the size of the limb, is bent upon itself at its middle, and made to adhere to the leg as high as the knee, one half running up the outer, and the other up the inner aspect of the limb; a loop or 'stirrup,' between four and five inches deep, being left below the sole. The two pieces running up the leg are secured by circular strips and a lightly applied bandage. The weight is suspended in mid-air, at the foot of the bed, by a stout cord, tied into the stirrup.

"It will be found convenient to attend to the following details in the use of the weight. Time should be allowed for the strapping to become thoroughly adherent to the surface before the weight is applied, otherwise the stirrup is apt to be dragged off. A few hours (six or eight) are sufficient for this. The strapping ought to be of stout material, and recently made. Care should be taken to defend the malleoli from too great pressure by the sides of the stirrup; for this purpose, American surgeons are in the habit of using what they term a 'spreader.' This consists of a thin piece of wood, a little longer than the foot is wide, which they place transversely in the stirrup, just below the sole, like the 'set-stick' in a horse's trace. A pad of cotton wool placed above each malleolus will answer the same end. Some patients, when the weight is applied, acquire the habit of sliding down in bed till the weight lodges on the floor. This may be effectually prevented by raising the bottom end of the bed six or eight inches, by placing books, or wood blocks, or bricks under its feet. The amount of weight which it is proper to apply is a point of great importance; but it must often be a matter of experiment to ascertain, in any case, how much is required. As a general rule, for children between the ages of six and nine years, four pounds are appropriate; but, while I have seen it necessary to apply as much as twelve pounds, gradually accumulated upon four, in a case of recurring muscular contraction in old hip disease, in the person of a child eight years old (Case No. IV.), I have found in other instances that children of this age complain of any weight exceeding three pounds. The weight should be as small as is consistent with its purpose of relieving pain, and preventing or removing distortion; so that it is advisable to diminish the amount as symptoms subside, and not to continue to employ a heavy weight after it has become unnecessary to do so."

Mr. Langton recommends the use of steady and uniform pressure by means of a compressing bandage, for the treatment of irreducible

hernia, allowing the patients to follow their usual occupation while using it, and trying to improve their general condition. The Inheritance of Cancer and its Relation to Questions concerning the Local or Constitutional Origin of the Disease, is the subject of Art. XIV., by Mr. Morant Baker, who argues that a special constitutional condition precedes the formation of a local cancerous growth. The remaining papers are on Oxaluria, by Dr. Duckworth; on the Treatment of Acute Pericarditis, by Dr. Farre; Surgical Cases from the Devon and Exeter Hospital, by Mr. Delagarde; a Case of Profuse Venous Hemorrhage from the left Meatus Auditorius Externus, consequent on a fall on the back of the head, by Mr. Holden, in which the patient made a good recovery. Mr. Eck records a Case of Aneurism of the Lower Part of the Common Iliac, of the External Iliac and Femoral Arteries, successfully treated by Pressure of the Abdominal Aorta. The patient was an Irishman, named Cusack, who had been under treatment in Cork and Tralee, and in Vincent's and Steevens's Hospitals in Dublin. Pressure was applied by means of Lister's tourniquet, over the bifurcation of the aorta, from 9.30 a.m., till 1.30 p.m., on the 5th May, chloroform being administered at intervals; when the pressure was removed, pulsation returned in the tumour, but to a limited extent only, and the tumour gradually consolidated and diminished in size. The man ceased to be troubled with the beating in the groin, and became able to walk about without aid, or support, or fatigue, or any injurious effect on the tumour.

Mr. Holden contributes an essay on External Anatomy, under the title of Medical and Surgical Landmarks. Dr. Edwards records the Termination of the Second Case of Poisoning by Mercuric Methide. Mr. Callender describes an operation for a Stricture of the Urethra, after the method suggested by John Hunter. The bladder had been tapped above the pubes some time previously; a catheter was now passed through this opening into the bladder, and thence into the urethra, when another was passed from the meatus, and the intervening space laid open from the perineum. Dr. Edwards writes on the Value of Palpation in the Diagnosis of Tubercular Disease of the Lungs, and the volume closes with Extracts from the Statistical Report of the Hospital for the year 1865.

Hysteria—Remote Causes of Disease in General—Treatment of Disease by Tonic Agency—Local or Surgical Forms of Hysteria, &c. By F. C. SKEY, F.R.S., late President of and Member of the Council, and of the Court of Examiners of the Royal College of Surgeons of England, &c.

THIS little volume comprises six lectures delivered by the well-known consulting surgeon of St. Bartholomew's to the students of that hospital.

The first two lectures are devoted to the discussion of such of the principles of medicine as, in the author's opinion, "involve the essence of medical and surgical practice," and include the nature and treatment of congestion, a consideration of the remote causes of disease, and an explanation of the *rationale* of the tonic and stimulant plan of treatment, of which Mr. Skey is a warm advocate.

Mr. Skey dwells on the importance of discriminating congestion from inflammation as a guide for the employment of stimulants. He believes that the co-existence of the four classical signs—heat, redness, pain, and swelling—is necessary to enable us to pronounce on the existence of true inflammation.

He states that the blood in the vessels of a part in a state of congestion "may be forced onwards, by giving increased action to the heart, by the resort to agents that tend to restore the healthy tonic condition of, or, at all events, to give force to, the capillary system of the affected part."

That he is opposed to the employment of stimulants in cases of genuine inflammation, is evident from the following passage. Speaking of some cases in which, on the third or fourth day after operations, congestion of the vessels around the wounds had occurred, and in which Mr. Skey had administered stimulants liberally with excellent effect, he observes:—"If these examples of local congestion of the blood vessels partook of the nature of inflammation, you, I am sure, will concur with me in considering this treatment a blunder. If stimulants be inadmissible in the treatment of inflammation, the treatment should have proved injurious. This it did not prove, but, on the contrary, effected early and curative results; therefore, the disease was not that of inflammation."

In the same lecture, however, Mr. Skey recommends strongly

the free use of stimulants and tonics in cases of incipient mammary abscess, an advice which seems to be in opposition to the opinion just quoted, as undoubtedly a large number of cases of mammary abscess are preceded and accompanied by inflammation, presenting the four classical signs in a very high degree of perfection.

The majority of physicians will no doubt consider Mr. Skey's therapeutics of congestion as too exclusively mechanical, and we think few practical men in this country will be found to coincide with his views as to the inadmissibility of stimulants in cases of inflammation.

The third and fourth lectures contain a good account of the nature and symptoms of hysteria; the remarks on the error, formerly so prevalent, of founding a diagnosis of disease of the spine on the existence of spinal tenderness on pressure, are very useful and forcible. The last two lectures contain an interesting summary of many of the local manifestations of hysteria. In addition to general tonic treatment, Mr. Skey speaks highly of the local application of *extractum opii fluidum*, on lint, to the painful parts.

1. *On Railway and other Injuries of the Nervous System.* By JOHN ERIC ERICHSEN, F.R.C.S., &c. 8vo, pp. 144. London: Walton and Maberly. 1866.
2. *A Practical Treatise on Shock after Surgical Operations and Injuries.* By EDWIN MORRIS, M.D. 8vo, pp. 88. London: Hardwicke.
3. *Railway Accidents and Collisions; their Effects on the Nervous System.* By WILLIAM CAMPS, M.D. 8vo, pp. 20. Second Edition. London: H. K. Lewis.

THE part to be played by the physician and surgeon in connexion with the various questions arising out of injury sustained in railway collisions, and as the result of accidents of other kinds, is one of great importance, and involves considerations which often test to the uttermost the finest powers of diagnosis and prognosis. Injuries attended with but slight symptoms of functional or organic derangement at the outset, may eventuate in irremediable disease at a period more or less remote. While, on the other hand, it cannot be denied that unscrupulous individuals will often seek, by the well feigned

simulation of symptoms of popularly recognized states of disease, to trade on the feelings of compassionate jurymen, and to extort exorbitant damages for ailments which are at best only trivial, often wholly fictitious. Keen powers of discrimination are here called for on the part of the physician.

Of the extent to which questions of compensation for railway injuries annually come to be dealt with, the following summary will convey some idea:—In the year 1864, there were killed and injured, from causes beyond their own control, a larger number than in the preceding year. The total killed for the United Kingdom, amounting to 36, and those in various degrees injured to 700.

In the year 1865, the following sums were paid by way of compensation, by various railway companies:—Caledonian, £12,849; Great Eastern, £21,996; Great Northern, £22,387 (including damage and loss of goods); Great Western, £40,061; Lincolnshire and Yorkshire, £24,708; London and North Western, £30,728; London and South Western, £25,000 (including loss of goods); London, Brighton, and South Coast, £4,504; Manchester, Sheffield, and Lincolnshire, £6,483; Midland, £25,958; North Eastern, £14,355 (including loss of goods); North British, £4,621; and South Eastern £70,726.

In one case £12,000 was claimed by the patient, and £4,700 awarded by the jury. In another case £7,000 was awarded. In numerous instances the conflict of medical testimony is the subject of wonder, viewing the extraordinary dissensions of opinion called forth.

With the pecuniary and other interests thus involved, it is not matter of surprise that the subject is one of profound interest to the public and the profession.

Dr. Camps treats his subject in a pamphlet, for we can give it no more important designation, and it appears to have reached a second edition. By what fortuitous circumstance it has gained a circulation which warrants the issue of a reprint—for such it would seem to be rather than a re-edited, amended, expanded, or in any way improved version of its first form—we are at a loss to discover. It is ill and carelessly, not to say illiterally composed. The following may be taken as a sample of what Dr. Camps thinks fit intellectual entertainment for the Harveian Society, and the general public:—"Now what are we to understand by the *nervous* system, that part of the body personal, which we know to be affected

by railway accidents and collisions? By the *nervous system* I wish, on the present occasion, to convey to my hearers," *i. e.*, the members of the Harveian Society, "that I would be understood to include the entire nervous mass or masses with their ramifications throughout the human framework, &c." Further on, in the same paragraph, we are informed that he "can scarcely conceive of extensive injury sustained by blood vessels, without some corresponding degree of injury sustained by nervous tissue, so intimately are the *blood tissue* and the *nerve tissue* related to each other in all parts of the human body." The next paragraph informs us "that one of the sad results of railway accidents or collisions must be the production of altered or perverted structure of the nervous system, the production of living morbid anatomy of such parts, and if morbid anatomy or diseased structure, why, then, in the nature of things, we must have morbid physiology or pathology."

We ask, in all earnestness, how came the Harveian Society to tolerate such slop as this? how illimitable must be the assurance which would make a man fit to give utterance to such inanities in any assembly of his medical brethren. It is too jejune for the most unenlightened mechanics' institute audience which it has ever been our portion to know of; and even allowing the widest limits to a dissertation intended for a popular assembly, it cannot be supposed capable of affording instruction or entertainmet.

Perhaps our author's aim may be best surmised from passages, of which the following is a sample:—"Yet, as one deeply interested in the entire group of morbid phenomenon affecting the *nervous system*, I may claim to have paid some considerable share of attention to many of those cases that of late became publicly known, from having been made the subjects of claims for compensation before the legal tribunals of our country." This is but an unskilful and ill-veiled *ad captandum* appeal to all the possible victims of railway "accident or collision," whatever be the distinction in Dr. Camp's highly logical mind: with a pretty clear indication by way of genteel advertisement, as to where they may find sympathizing, if not too scrupulous, medical aid, when the day of trial (by jury) comes. With these observations we shall dismiss Dr. Camps, with a last expression of regret, that a society which holds amongst its members so many honoured names, could allow itself to be made the medium of circulating such a pamphlet as that before us, the scope and object of which are but too apparent.

Dr. Morris's essay on "Shock" will repay perusal, though, as we

will have presently to notice, his views are not in all respects such as we can endorse. As a striking example of the effect of shock, he cites the well-known instance of the brave Spanish officer in the Duke of Alva's army, whose hair turned white in a single night, after being told in joke by the Provost-marshal that he was to prepare for instant execution, although he was almost immediately undeceived.

Of the remarkable occurrence of death from shock after operation, the works of all the great surgical authorities, from Cooper (Sir Astley) to Paget, furnish notable instances. Extensive injuries in like manner not unfrequently produce death after a longer or a shorter interval, without the concomitant of hemorrhage or other sensible or palpable physical loss. Nothing is more impressive, when first seen, than to observe, perhaps a large and powerfully-built man sinking painlessly and silently after an injury which has carried off a limb. Of this, it has occurred to the writer to see striking illustrations as the result of gun-shot wounds and shell explosions. The case may be cited of an able and athletic Turk whose right thigh was carried off by a round shot while he was engaged in conveying water to the occupants of an advanced parallel before Sebastopol. He was removed to an hospital in the rear, and survived some three or four hours. The limb presented a jagged, irregular, and very oblique surface, from or rather upon which the femoral artery hung out some two inches in length; but neither from this vessel nor from any other large or small artery or vein was there the smallest particle of hemorrhage. The patient exhibited no sign of pain, was conscious, and apparently resigned, and sank silently and quietly out of existence. In another not less remarkable instance, also within the cognizance of the writer, an officer, whose thigh was carried off by a shell explosion, was able for some moments to hop about on his remaining leg, giving some directions for the care of others wounded by the same explosion; but he soon became oppressed with "shock," and died while being carried to the rear. There was no hemorrhage from any vessel in the shattered limb in this instance either. Death from shock after burns is well illustrated by the cases cited by Dr. Morris. The symptoms, progress, and treatment of shock are next succinctly treated. A special section is devoted to the consideration of "shock from railway injuries," and under this head much that is of a critical and controversial character is introduced, the writings of Mr. Erichsen being the chief object of assault. Our author

finds fault in an especial manner, and, in our opinion, with great justice, with the sensational terms too constantly employed in connexion with railway injuries. But it would appear to us that while avoiding Scylla, Dr. Morris has fallen into Charybdis, and in his well-meant zeal to decry professional partiality for the public, when they become the subjects of railway injury, he falls into the opposite extreme, and becomes the advocate of the railway interest. He seems to speak throughout as the *amicus curiæ*, i.e., of the railway, and as if all claims for compensation were mainly instituted on a fraudulent basis, and bolstered up by the undiscerning and (suggestively) unscrupulous aid of the physician or surgeon in attendance on the patients. We regret to find a member of our profession suggesting that a system of *espionage* should be kept up upon patients till a trial takes place. A more debasing occupation for a medical man we cannot well conceive, and no other than a physician or surgeon could fill the office suggested with any prospect of drawing conclusions capable of being used at a trial with any effect. We cannot think such advice a practice calculated to raise the writer—or his profession, if they followed his teaching—in public estimation.

Dr. Erichsen's work is one which has already excited notice of no partial character amongst some of his critics. If open to cavil, it is redeemed by much that is interesting and instructive. Amongst the most noteworthy and protracted cases of injury of the spine, Dr. Erichsen cites the well-known history of the Count de Lordat, a French officer of distinction, injured by being thrown from his carriage in April, 1761. He went through the subsequent campaign of that year, and it was not till nearly four years after the receipt of the injury that he finally succumbed, after a period of much suffering and distress. We have ourselves seen a well-marked instance of death, after nearly two years' interval from the time at which a gentleman was thrown from his gig, flat on his back, on a hard road. A period of apparent immunity intervened, but fatal spinal symptoms ultimately came on.

That similar results will occur, after injuries sustained in connexion with railway accidents, cannot be doubted; and it is in dealing with cases in which a more or less well marked interval of apparent immunity from suffering or symptoms of spinal lesion presents itself, that the nicest skill in diagnosis and prognosis is required; and it is further to be observed that such cases are more liable to the charge of malingering, until the reality of the malady

with which the patient is threatened becomes apparent to all by the ultimate development of the unmistakable phenomena of paralysis, marasmus, and too often death, finally. It is not made sufficiently apparent, in either of the two works before us, which deserve serious attention, that of Dr. Erichsen or Dr. Morris (for we wholly dismiss Dr. Camps and his essay), in what class of accident, and in connexion with what pathological state, we are to look for immediate or remote results from injury to the spine. It would seem to us that the following classification of such injuries may be adopted:—

a. Injuries to the bony coverings of the spinal marrow, in which the symptoms follow more or less immediately upon the accident which causes them, and in which they will vary in kind and degree, proportionately with the amount of physical lesion.

b. Injuries in which, by any concussing or disturbing violence, the vascular apparatus of the membranes of the spinal cord, singly; or the spinal cord, itself, singly; or both, conjointly, are stimulated to increased activity, and acute or sub-acute meningitis, or acute or sub-acute myelitis is set up within an interval corresponding to the ordinary period of reaction in other cases of injury, and in which symptoms, more or less well marked, are exhibited within from six to twenty-four hours after the accident to which the patient has been exposed.

c. Lastly, injury chiefly, if not wholly, affecting the spinal marrow in such manner as to set agoing a very slow process of physical change in its histological elements; in which, therefore, symptoms are but very slowly evidenced. Such cases are all the more dangerous from their insidious approach, and can only be rightly interpreted by one who has made the most diligent study of all that has been established of late years with regard to the physiology and pathology of the spinal cord.

In dealing with cases of railway or other injury to the spinal cord, its coverings or membranes, the physician or surgeon has to address himself to the study of the questions concerned in the pathology, diagnosis, and treatment of the three forms of spinal affection just enumerated.

That something special attaches to injuries of the spinal cord, the result of railway accidents, is strongly affirmed on the one hand, and loudly denied on the other (see Morris *passim*). For ourselves we cannot but believe that injury to the human frame, in the special state of tension which it is thrown into by railway

travelling, especially at high velocities, has something of a special character, and is usually more intense in degree, though not different in kind, from injury received under almost all other circumstances. In conclusion, we would say a word to our professional brethren as to the part they are now so often called upon to play in connexion with railway injuries; and it is this—to avoid being the advocates, either of the Company or the injured party; to give an impartial report of the nature, degree, and probable consequences of the injury; and to refer to an actuary all calculations as to the amount of damages.

1. *On Diseases of the Lungs and Air-passages; their Pathology, Physical Diagnosis, Symptoms, and Treatment.* By HENRY WILLIAM FULLER, M.D., Cantab.; Physician to St. George's Hospital, &c. Second edition. London: John Churchill and Sons. 1867. 8vo. Pp. 534.
2. *Physiological Remarks upon the Causes of Consumption.* By VALENTINE DUKE, M.D.; Fellow of the Royal College of Surgeons; Licentiate of the King and Queen's College of Physicians. Dublin: Fannin and Co. 1867. 8vo. Pp. 108.
3. *On the Treatment of Pulmonary Consumption by Hygiene, Climate, and Medicine.* By J. HENRY BENNET, M.D., &c. London: John Churchill and Sons. 1866. Pp. 56.
4. *On the True First Stage of Consumption.* By HORACE DOBELL, M.D., &c. London: John Churchill and Sons. 1867. Pp. 75.
5. *Change of Air considered with regard to Atmospheric Pressure in the Treatment of Consumption and Chronic Disease.* By J. C. ATKINSON, M.D. London: Trübner and Co. 1867. Post 8vo. Pp. 142.
6. *On the Treatment of Consumption, with Notices of Successful and Unsuccessful Cases.* By CHARLES THOMASON THOMPSON, M.D. Second edition. London: Robert Hardwicke. 1867. Pp. 29.

DR. CHARLES THOMASON THOMPSON informs the public, for

whom we presume his pamphlet must have been written, that having followed for years in the treatment of consumption the usual method, he found it to be "a practice fraught only with death," and therefore addressed himself with "agony and anxiety" to the task of discovering a better. In this he soon succeeded, and since then, under his management, "in all cases it has been most interesting and most delightful to observe how the symptoms appear to unwind themselves." In the only case in which he informs us what he did, ice to the chest and cold sponging to the other parts of the body constituted his treatment; but "it is impossible to give the explicit instructions necessary for each case," and those who require them must, we presume, go to 10, Sussex-street, Warwick-square. Before they decide, however, it is only fair they should know what Dr. Atkinson has to say for himself:—"By the study of the barometer I have been led to anticipate answers to my questions in such a way as to convince my patients that I possessed some secret means of discovering their diseases which was peculiar to myself, and which gave me an importance in their eyes as possessing a prophetic spirit." To avail themselves of this power of divination they may, instead, turn their steps to the consulting room in Bessborough Gardens, as in either case they will doubtless have to pay their money, let them take their choice.

By the true first stage of consumption Dr. Dobell means the stage which precedes the deposit of tubercle. As our readers are aware, he considers tuberculosis to be due to a defect in the action of the pancreas on the fat taken as food, especially the solid fat:—

"The supply of properly prepared fat is cut off from the blood: 1, by the fats not being brought into a proper condition by the pancreas; 2, by loss of absorbing power in the small intestine, due to the repeated contact of unhealthy pancreatic juice, and of defectively prepared food with its mucous membrane. Thus the blood becomes defectively and deficiently supplied with fat-elements from the food; is unable to afford those required for direct combustion: does not replace those taken up during the interstitial nutrition, but, on the contrary, takes up more, to compensate the deficient supply from the food. This having gone on up to a certain point, the fat-elements of the albuminoid tissues are seized upon, and these tissues are minutely disintegrated in the process. This disintegrated albuminoid matter is *nascent tubercle*; and this process of disintegration is *tuberculization*."

The indications that this has begun are obscure. Dr. Dobell

does not hope to be able to convey to his readers in words such an impression of the symptoms and signs as will enable them to recognize its commencement; the ability to do this can only be acquired "by watching hundreds of cases in all the modifications due to mental and bodily confirmation, complexion, temperament, habits, age, sex, occupation, class in society, and the like." This, doubtless, he has done. There are, however, some indications which are sufficiently tangible to be appreciated by less cultivated practitioners; and when these are present they should, we suppose, instantly seek for their patients the advantage of further advice. These indications are afforded by "loss of fat and of flesh, loss of strength, and disturbance of temperature and of excitability." The importance of immediate treatment is insisted on as soon as the diagnosis of deficient action of the pancreas has been satisfactorily made, and the true remedy is said to be "cold dry air without wind, and plenty of it; exercise in such air, and exhilarating society; clear, dry, windless, cold, out-of-door exercise, and good spirits, constitute the essence of stimulation to the pancreas. It is astonishing how the organ leaps into action under these influences." But complications are met with in almost every case which demand attention. The stomach and the small intestines may be already so much disturbed in their functions as to require special treatment, or there may be some non-tubercular affection of the chest present which must be disposed of. Worse than all, the habits and circumstances of the patient may be such as to render it impossible for him to command the cold dry air and the exhilarating society his pancreas wants. "What is to be done?" "Every hour is precipitating the patient further into the depths of tuberculosis." "It is in this place that *pancreatic emulsion of solid fat* comes to the rescue and assumes such incalculable importance in the treatment of the first stage of consumption." Pancreatic emulsion, as every one now knows, was originated by Dr. Dobell; and it is not to be wondered at that he is somewhat extravagant in his laudation of it. If, however, he succeeds in obtaining for his patients the cheerful society he so strongly recommends, and the cooked meat, and game, and dried fish, and cheese, and vermicelli, and rice, and sugar, and milk, and green vegetables, and pint of Burgundy, recommended in the diet tables, which have of late drawn down upon him the censure of his professional brethren, we are not surprised that the pancreatic emulsion does good. We have not had much experience in its use, but within the past few days we

happened to see a young lady who has been taking it for months; and while doing so she has been changed from a thin, nervous, desponding creature, into a plump, tolerably robust, and cheerful woman. Up to the beginning of last summer she was living in one of the dullest and least interesting country towns in Ireland; she had no society beyond the family with whom she lived, and it was composed of persons much older than herself, who with a mistaken sense of duty repressed all youthful pleasures. Outside the house there was no inviting prospect; inside there was cheerless quiet, and so the dreary winter slowly passed and left her weak and sickly. In spring she went on a visit to a kind relative who lived in a very pretty country seat, and had a famous cook and a good cellar, and the best dairy in the county; and she drank cream, and drove about, and went to croquet parties, and took Dr. Dobell's pancreatic emulsion, and grew stout and strong; in fact, she did exactly what Dr. Dobell very wisely tells people to do. Our trial of his preparation has, however, been too limited to justify us in expressing an opinion on its virtues; but we are inclined to think that Dr. Fuller gives in the following extract, which we take from the work which stands first on our list, a pretty fair estimate of its value and of the pathological hypothesis on which its use is recommended:—

“It has been suggested by Dr. Dobell that the constitutional disturbance so remarkable in consumption is due to the imperfect assimilation of fatty matters consequent on defective action of the pancreas, and he has proposed to remedy this deficiency by the administration of pancreatine, either alone or in combination with fatty matters, in the form of emulsion. He affirms that many persons who cannot digest fat, and are unable to assimilate, and therefore to profit by cod-liver oil, can take fat or oil when formed into an emulsion by means of pancreatine, and that under its use the strength and weight of the patient improve, and, in many instances, the progress of the disease is checked. Nay, more, he has published reports in the journals wherein he endeavours to show by statistical reports that its action is almost uniformly beneficial. I wish it were in my power to endorse his statement or confirm his favourable report. Experience, however, leads me to demur to his theory, and to question the value of the practice founded on it in most cases of consumption. The pancreas is not the only organ concerned in the emulsification of fat, and no proof has been adduced that the pancreas is diseased in those cases in which fat is not easily digested. Further, it oftentimes happens in consumption that there is no disinclination to take fatty

matters, and no apparent difficulty in digesting them; on the contrary, fat is often eaten greedily and digested readily by this class of invalids. In these instances, therefore, it can scarcely be pretended that a deficiency of pancreatine is the cause of the complaint, and the administration of pancreatine, whether alone or combined with fat in the form of emulsion, is found not to afford the slightest benefit. I have watched its effect under these circumstances too often to be mistaken in my conclusions. Nevertheless there are cases in which the utility of pancreatine does not admit of doubt. The repugnance to fatty and oleaginous matters exhibited by some consumptive patients is so great that they cannot be induced to take them, and even if they do swallow them they either eject them by vomiting or find their digestive organs completely upset. In these cases the pancreatic emulsion is useful in supplying an important element of food in a form in which the digestive organs can deal with it. Several patients under my care, who have evinced an utter indisposition to take fatty matters, have derived much benefit from the pancreatic emulsion. But it must not be assumed that this is the only form in which fatty matters can be taken under the conditions just referred to. Even when the stomach rejects fat at dinner, and is unable to digest oil in its natural state, it will often receive either the one or the other when made into an emulsion by means of liquor potassæ or some other alkali, in which case I have usually found that the cod-liver oil proves more beneficial than the pancreatic emulsion. But in cases characterized by such an intolerance of oil and fat that the addition of alkalies does not suffice to ensure their favourable reception by the stomach, pancreatic emulsion may be fairly tried as a remedy from which much benefit may be expected. In some such cases it can be taken and digested readily, and under these circumstances it is of considerable value."

But the adoption of Dr. Dobell's views as to the production of tubercle would lead to a change of practice in the very important matters of exercise and exposure to air. Before the formation of tubercle has set in, before, according to his theory, the oxidation of the albuminoid tissues has commenced, while yet we have to deal only with a sluggish pancreas dry *cold* air, and exercise in it, are essential parts of our treatment, but if once tuberculization has begun, every atom of oxygen which enters the system increases the destruction, then a climate is required in which the atmosphere, rarefied by heat and diluted by watery vapour, will supply oxygen in diminished quantity, and exercise should be reduced as much as possible until we have introduced into the blood hydro-carbon sufficient for the oxidation which occurs during the growth of new tissues, and the production of heat; a hot dry air he considers only

desirable when there is a tendency to catarrhal affections of the air-passages and local congestions. It has long since been observed by physicians that the preparations of iron exercise in many cases of phthisis a very unfavourable influence; this, according to Dr. Dobell, arises from their increasing the red corpuscles of the blood, and hence its oxygen carrying powers. We do not know what Dr. M'Cormac, whose work we noticed in a former number, will say to such doctrines. Exercise should undoubtedly always stop short of fatigue, and exposure be prudently regulated, but our experience of fresh air, and moderate exercise, even when the deposition of tubercle had undoubtedly begun, and when the state of the digestive organs prevented the introduction of fatty matters in any quantity, does not lead us to endorse the author's recommendation. For those indeed who can afford a carriage, or a boat, or a horse, the expenditure of strength in walking had better be avoided; but we not unfrequently see hospital patients in whose lungs deposit was increasing and softening while they remained in the wards, regain, to some extent, their strength, and hold their ground while pursuing their occupations in the open air.

Dr. Henry Bennet does not profess to offer much information which is new; he desires only to be the exponent of the views now held by the majority of experienced physicians on the treatment of consumption, and to bear his testimony to the curative powers of the measures which, at the present day, are by them recommended; there is one matter to which he specially drew attention last year in a communication to the *Lancet*, and which he again notices; the frequency with which phthisical women have some uterine ailment, and the prejudicial effect it has in keeping up irritability of the stomach and preventing the nourishment of the patient. He discusses the treatment of consumption under the three divisions of hygiene, climate, and medicine; he advocates good food, fresh air, the cold bath at a temperature of 62° to 68°, and rest from occupation; much active exercise he considers a great mistake; as a summer residence he thinks there is none better than that of the British Isles; a winter residence for the consumptive should be dry, cool, sunny, and bracing; and such a climate he considers is especially to be found at Mentone, from a residence in which he has, in his own person, derived much benefit. On the use of drugs he has nothing to say which will assist those who are familiar with the ordinary works on diseases of the chest. In his concluding chapter he gives some good advice to those who by the combined use of the measures

he has discussed, are brought to a state in which the tubercular deposit is quiescent; he advises them to avail themselves of such lulls to change their occupations, their residences, and their habits of life, and to refrain from embarking in projects which will severely tax their vital powers.

Consumption would be a less common disease if the public and profession were sufficiently alive to the importance of the subjects well dwelt on by Dr. Duke, an abundance of pure air, and a sufficiency of wholesome food and drink, with moderation and temperance in their employment, occupation for the mind, freedom from too great care and anxiety, bodily exercise, cleanliness of person and clothing, regulated by climate and season; the necessity for those he shows on physiological grounds, the danger of neglecting them, he attests as a result of his extensive observations, and we hope his volume will, as it should do, draw attention to them.

We have been in the constant habit of referring to Dr. Fuller's work, and we confidently recommend the revised edition; from it the student will derive valuable aid in his difficulties, and the practitioner thoroughly practical assistance in his anxieties; the chapter on the subject more immediately before us is admirable. In our notice of Dr. Pollock's work on the *Elements of Prognosis in Consumption*, we took occasion to recommend that those who had a hereditary tendency to consumption, but in whom as yet the disease had not been actually developed, should not be sent to winter in a southern climate, but should be kept at home, and exposed to the bracing influence of our northern winter. Confirmatory of this recommendation are Dr. Fuller's observations on climate; he reminds his readers that the removal of the tubercular cachexia depends on improvement in the functions of assimilation and nutrition, and that many persons are conscious of enjoying better health and greater vigour, and a more healthy appetite, and comfortable digestion in winter than in summer; and draws attention to the fact that to a large proportion of consumptive invalids the warm weather of spring and summer is most fatal; and that investigations into the geography of phthisis prove that cold is, if anything, preventive of the disease; some, too, of the most remarkable recoveries, which have come within his own cognizance, have been in the persons of those whose occupations or necessities have driven them to the cold regions of the North.

"I do not wish to imply by the above statement, nor to adduce the

foregoing facts to prove, that warmth is always or even generally prejudicial to persons of a consumptive tendency. That would be an error precisely similar to the one against which it is my wish to protest. Nothing is more certain than that a warm atmosphere is of all things that by which many persons suffering from the tubercular cachexia are most likely to benefit. Their organization is delicate, their circulation weak, their extremities are often cold, they are pinched and prostrated by a low temperature, and they are very susceptible of damp. To such persons a warm atmosphere is invigorating in the highest degree, and without its aid medicine and the most carefully regulated diet are of little avail. My wish is rather to point out that, whereas many persons are benefited by warmth, others are equally benefited by cold, and that the opposite opinion, which is commonly and rigorously enforced in practice, is constantly leading to lamentable results. The rapid progress which consumption sometimes makes in patients who have gone abroad for their health, and which is often attributed to their having delayed their journey too long, is referable in most instances to the fact of the individuals in question being persons who are naturally benefited by a cool, bracing atmosphere, and who sink at once when sent to the warm and enervating climate of the south.

“It may be asked, what facts are calculated to assist us in determining the sort of climate by which a patient is likely to be benefited? The question is somewhat difficult to answer, inasmuch as a change of climate implies not only a change of temperature, but a change in the humidity and electrical condition of the atmosphere, in the degree of its barometric pressure, in the force and direction of the wind, and probably in many unknown but potent telluric influences productive of marked effects on the animal economy. Nevertheless, though much uncertainty must exist, there are certain points which will serve in most instances to guide us to a correct opinion. The most important of these are—First, the sort of climate and the degree of temperature which formerly suited the patient's constitution, or, in other words, agreed best with him when he was in health; and, secondly, the state of the patient's bronchial mucous membrane at the time when his removal to another climate comes under consideration. It is obvious that if the bronchial mucous membrane is irritable the invalid cannot bear the effect of a very dry and stimulating atmosphere, however warm the locality may be. His symptoms require a soft atmosphere, and its temperature and the precise degree of humidity which is necessary must be determined, by reference to his constitutional peculiarities. Thus, if he formerly enjoyed better health in summer than in winter, and felt in greatest vigour in very warm weather, and in an atmosphere devoid of markedly stimulating or relaxing qualities, the probability is that the climate of Syria, Persia, Rhodes, Egypt, Algeria,

and other parts of Northern Africa, would exercise an influence on his system the good effect of which could hardly be over-estimated.

"If, again, though usually better in summer than in winter, he was formerly oppressed by excessively dry heat, but enjoyed a warm and humid atmosphere, such as that of South Devon or Cornwall, the probability is that the climate of Caunterets, Eaux-Bonnes, or the Righi, during the summer, and of Torquay, Dawlish, Penzance, or Jersey, of Pau, Rome, the Azores, Madeira, Santa Cruz, the Mauritius, or Ceylon, during the winter, according to the degree of temperature required, would be found to suit his general health, and assist in subduing the irritability of the air-passages.

"And yet again, if he is constitutionally disposed to general languor, and has not only felt depressed and enervated by heat, but pinched and prostrated by cold, then, notwithstanding the irritability of his bronchial mucous membrane, a medium climate must be sought—a climate such as is to be found in Queenstown and other parts of the coast of Ireland, on the western coast of Scotland, at Cheltenham, St. Leonards, Ventnor, and Bournemouth; or, if a higher range of temperature is necessary, at Hyères, Pisa, Montreaux, or Malaga, on in New Zealand, Brisbane, or the Cape of Good Hope.

"But a large class of consumptive patients exist in whom there is little or no irritability of the mucous membrane. In these a more bracing air will generally prove of the greatest benefit; but nevertheless, as in the former cases, the selection of a locality in each particular instance must be regulated by the constitutional peculiarities of the invalid. If his circulation is languid, and he has usually felt more vigorous in summer than in winter, the invalid must repair to a warm locality; and in such a case the climate of Mentone, St. Remo, Cannes, Malta, Nubia, Algeria, Upper Egypt, the northern districts of Syria, and New South Wales, are likely to prove extremely beneficial. In some such cases the air of the villages high up the peak of Teneriffe, the Himalayas, the more elevated parts of the Andes, and other hill districts, has been found remarkably serviceable. Indeed, there is abundant evidence to prove that on the elevated slopes of the Andes and in the higher regions of the Peruvian Cordillera phthisis is almost unknown, and consumptive invalids who take up their abode here, in most cases, make good recoveries.

"If, again, the patient has an active circulation, and has usually enjoyed better health in winter than in summer, feeling braced and invigorated by cold, he will probably derive benefit from a residence at Brighton, Margate, Aldborough, Cromer, Harrogate, or Malvern; if a warmer air is needed, at Nice or Florence; or if a cooler and still keener air is required, in Montreal, or other places in Canada, or in certain dry localities in Norway, Russia, or other northern countries. In these cases, too, the

stimulating effect of the air at high ranges above the sea-level is oftentimes productive of extraordinary beneficial results. Some of the most remarkable recoveries from consumption which have come within my own cognizance, have occurred under the bracing influence of a northern clime and the diminished barometric pressure which obtains at considerable altitudes above the sea-level."

We have already quoted Dr. Fuller's testimony as to the value of pancreatic emulsion; when neither it nor cod-liver oil agrees with the stomach he is in the habit of giving sugar in the form of eau sucré to the extent of a pound daily. Contrary to the practice which we have always followed, he advises cod-liver oil to be continued during hemoptysis and intercurrent inflammatory attacks, in combination with the remedies which they may require; these complications are due, he says, to the unhealthy condition of the nutrient fluid, and the sooner this is corrected by the oil the better. With the following quotation on the subjects of baths, we must conclude our notice of his excellent work:—

"The use of baths, whether warm, tepid, or cold, vapour or hot air, is too much neglected in the treatment of consumption. This has arisen, I believe, partly from the difficulty which, until the last few years, has been experienced in obtaining baths in this country, and partly from the mischief which has frequently resulted from their improper or injudicious employment. It is not to be doubted that agents like baths must exert a powerful influence on the animal economy. Theory suggests the fact, and experience confirms it. But their agency will be for good or for evil, according as they are judiciously or injudiciously made use of. The cold shower bath will stimulate and brace one patient, but will chill and depress another; the warm bath will soothe and tranquillize one person, but enervate and render another miserable; the vapour or the hot-air bath will refresh the man whose skin is dry and inactive, and whose nervous system is oppressed or rendered irritable by the presence in the blood of materials which ought to have been thrown off by perspiration, whilst it would exhaust and reduce to an unwarrantable degree the patient whose skin is already relaxed and acting immoderately. Thus, it may be affirmed of baths as of other agents, that they become remedies only when they are adapted to the requirements of the case. But it may be added, that when so employed they are valuable adjuncts to other treatment, and ought never to be neglected. I have seen more striking benefit result from the cold shower bath and the dripping sheet, followed by active friction, or from the hot-air bath, followed by a cold douche or a cold

shower bath, than from any other remedy, except cod-liver oil. The patient, if cold and chilly, is warmed by the hot-air bath to a degree which cannot be produced by any other agency, while the cold water braces the nervous system, and renders the skin less susceptible of draughts and of sudden variations of temperature. Sponging the body with cold or tepid vinegar and water is sometimes very serviceable."

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS.

A Case of Ascending and Descending Breathing, with a prolonged Stage of Apnea, with Fatty Degeneration of the Diaphragm, but not of the Heart.
By HENRY H. HEAD, M.D., F.K. & Q.C.P., and Physician to the Adelaide Hospital.

IN January last I exhibited to the Pathological Society the heart and large vessels of a man, who died in the Adelaide Hospital, for the purpose of placing on record the history of a case in which that form of breathing existed in a marked degree, where the rhythm consists of an ascending and descending series with a prolonged stage of apnea, without fatty degeneration or other weakened condition of the heart.

The *post-mortem* was made a short time before the meeting, and the condition of the heart had alone been investigated. Subsequent observations led to the discovery that there was extensive fatty degeneration of the diaphragm, and I thought the case worthy of more consideration, and that the details might be interesting to the Medical Society.

Signor R——, married, aged fifty-five, was admitted into the Adelaide Hospital on the 12th November, '66. He was a large, strong-built man, with good muscular development, was rather fat, but not to an inordinate degree. He stated that he had served in the Tuscan army for six years, and had been obliged to leave Italy, in '48, for political reasons. Since that time he had suffered from great anxiety, and had undergone many hardships.

His habits had always been temperate, he had never been addicted to smoking, had never suffered from rheumatism, nor had he ever had venereal. His health had been moderately good, and he was not conscious of having suffered from any chest or cardiac affection until within the last year, since which time he had occasionally had attacks of

palpitation and difficulty of breathing on making any undue exertion. A short time before his admission into hospital, his symptoms became greatly aggravated, and he observed some swelling in his feet. When admitted he complained of difficulty of breathing, he could not lie flat on his bed, and was obliged continually to maintain a sitting position. The heart's action was strong, and a pulsation in all the superficial arteries was distinctly visible. The appetite was good, the tongue furred, bowels confined. The urine was scanty and high coloured, its s. g. 1024, and it contained a small quantity of albumen. On examination there was found to be an increased dulness over the region of the heart, extending from the third rib to the sixth intercostal space, and from the right of the sternum to a considerable distance beyond the left mamma. The impulse of the heart was strong, and could be felt over a much larger space than was natural. On examination with the stethoscope a double murmur was heard at the apex of the heart, which became more distinct as you approached the base; the second sound was not perceptible, but was replaced by a murmur. The bruit accompanying the first sound was traceable along the course of the aorta as high up as the vessels of the neck. The pulse was seventy-six, strong, but sudden and abrupt, and yielded immediately after the first impulse. There was a distinct vibratory thrill in the larger vessels, particularly perceptible at the commencement of the carotid and subclavian arteries. The lungs did not exhibit any physical sign of disease. During the paroxysms of difficult breathing the respiratory sounds were loud and puerile; there was little cough, and very scanty expectoration. The diagnosis was permanent patency of the aortic valves, and hypertrophy of the left heart. Under treatment his condition at first considerably improved, and the swelling of the feet disappeared, but the relief was only temporary; after a short time the symptoms became greatly aggravated. The swelling in the limbs returned, and the distress of breathing was much increased. It was then observed that the respiration presented the character of an ascending and descending series with an interval of apnea. These phenomena were not constant, but after a time became much more distinct. During the height of the paroxysm the efforts were most violent, bringing into strong action all the respiratory muscles, more particularly those of the thorax. The rhythm lasted about one minute and a quarter, the periods of ascent and descent being nearly equal, and the apnea sometimes lasting thirty-five seconds. The case went on with little change, except a gradual increase in the severity of the symptoms, until the end of January; the treatment adopted afforded little relief; at times the sufferings were extreme, and very little sleep could be obtained. On several occasions it was endeavoured to be ascertained whether the peculiarity of breathing existed during sleep, but no satisfactory observation could be obtained on account of the patient's extreme wakefulness. The

anasarca increased very much, and extended to the cellular tissue of the body. On getting out of bed the patient met with a slight accident which injured the skin on one of his legs. He was attacked by erysipelas, which gradually extended to the trunk, and the limb became gangrenous, in consequence of which he died.

The body was examined eighteen hours after death. On opening the thorax the lungs collapsed slightly, but did not present any appearance of disease. The heart was much enlarged and elongated, lying nearly transversely in the chest. On opening the pericardium, there was a small amount of fluid, and the heart was covered with rather more fat than usual. The cavities were distended with blood, and there was a loose fibrinous clot in the right auricle and ventricle, which was not adherent or in any way attached to the sides of the cavities. The aorta was dilated, and the coats contained an extensive atheromatous and osseous deposit; the aortic opening was surrounded by a bony ring. The semilunar valves were thickened and contracted, and were quite incompetent, permitting water to pass freely into the ventricle. The walls of the left ventricle were much hypertrophied, and the cavity slightly dilated. The mitral valve and opening were perfectly healthy. The right ventricle did not present any abnormal appearance, with the exception of, perhaps, a slight degree of dilatation. The auricular ventricular opening was a little larger than usual, but the tricuspid valve normal and competent. The muscular structure of the heart was firm, natural in colour, and did not present, under the microscope, any sign of interstitial deposit of fat or fatty degeneration of its structure. Careful chemical examination led to the same result. The intercostal muscles and general muscular structure of the body appeared natural, but were not specially examined. The diaphragm was of a pale yellow colour, soft and easily torn, and, under the microscope, exhibited both interstitial deposit of fat and also fatty degeneration of the muscular fibre. An independent examination was made by my friend, Dr. Macallister, who, without having seen the case, or having formed any preconceived idea on the subject, gave me the following results of his examination:—"The portion of the diaphragm submitted to me was a little thicker than usual, soft, easily torn, and pale yellowish-brown in colour; fat cells existed in abundance in the intermuscular cellular tissue, and the muscle fibre seemed degenerated with strings of fat globules enclosed in the myolema. It left a greasy mark on soft paper and likewise on the knife." The abdominal viscera were not examined with any great care. The liver appeared natural as to structure, but was slightly enlarged. The spleen was about three times its usual size, but its structure was apparently not much altered. The kidneys were very vascular, but did not exhibit any sign of degeneration. No examination was made of the nervous centres, as they did not show any symptoms of disease during life.

It has always been considered by pathologists a difficult matter to explain the cause of this form of breathing. That it is not always due to a weak condition of the heart retaining the blood until a sufficient accumulation has taken place to excite reflex action, may be inferred from the fact that the pulse was as strong during the apnea as during the respirations in this case, as the sphygmograms taken by my friend, Dr. Grimshaw clearly show; and in a case of a similar kind, now in hospital under the care of my colleague, Dr. Little, the sphygmograph shows a stronger pulse during the apnea. There cannot be a doubt that this form of breathing is most frequently associated with fatty degeneration of the heart, but it is equally true that it has been observed when no such lesion existed. Dr. Walsh, in the last edition of his book, says:—"It probably lies beyond the powers of existing physiology to explain satisfactorily the mechanism of this apnea;" and expresses an opinion that its cause exists in failure of nervous power due to disease in either the vagus or medulla oblongata.

While this case was under observation it was considered probable that fatty degeneration of the right side of the heart existed, although there was evident hypertrophy of the left. The fact of degenerated diaphragm was not suspected until the *post-mortem* examination. And I was not aware that any case of the kind had been recorded, until my friend, Dr. Walter Smyth referred me to Dr. Callender's report of six cases in *The Lancet* of the 12th January last. They were for the most part associated with fatty heart, but he does not mention any particulars connected with the breathing, except that it was in some instances irregular, and that patients all died of rapid sinking, with failure of the respiratory powers. It would not of course be philosophical to infer from one case that this lesion of the diaphragm was the cause of the apnea; but it is worthy of the attention of those who may have the opportunity of observing future cases, and I think it affords as rational an explanation as any that has hitherto been given. I was led to examine the diaphragm when I saw that there was no degeneration of the heart; the thought suddenly occurring to me that the error might be in the muscles of respiration. The colour of the muscle attracted my attention.—*April 17, 1867.*

On Symptoms Diagnostic of Recovery in the different Forms of Insanity.

By MARCUS EUSTACE, L.R.C.S.I., Fellow of the College of Physicians, Ireland, &c.

Do the symptoms of recovery differ, according to the form of insanity in which they occur? and are we able to recognize them, as following a definite and distinctive course, so as to assist us in forming a correct prognosis? These are questions of the highest importance, in the present state of our knowledge of mental disease.

On careful examination of the subject, it will be found that there are such differences between the symptoms of recovery in each form; yet on reference to our highest authorities on practice of physic and mental disease we find such a recognition entirely overlooked, and yet every medical man, who has had many cases of insanity under his care, can easily recall to memory the definite and distinctive course which most cases that recovered followed; and that such cases as bore a similarity, in form of disease, had, in some degree, an analogous course to recovery; and that some of the symptoms, which at the time appeared to them most unfavourable, were in reality those that were following their true type, and by analogy with others of the same class prognosticated the first approach of recovery; while on the contrary, if the same symptoms were observed, in another form, they would denote an opposite result, and in a short time show that they had only been the precursors of an advance of disease.

In illustration I bring before you the case of a gentleman who was under our care some years ago. It was easy from the first to diagnose his case as one of general paralysis; he had the mental exaltation, the tottering gait, difficulty of utterance, and general tremors, particularly of one side; he thought his powers unlimited; his mind was entirely absorbed in passing in review his unbounded wealth, being unable to control its fancies even for a short time; he raved like one talking in his sleep. This state continued for nearly two years, little change taking place, with the exception of a slight increase of paralysis, when one day my brother was hastily sent for, by his attendant, who, trembling with emotion, told him that suddenly, and without any observable premonitory change, Mr. A. had quite recovered his mind, and had expressed a desire to see him.

On my brother going to him he found him calm, and perfectly in his right mind, but with a decided increase of paralysis on one side. Mr. A. asked how long he was in the establishment, expressed himself quite unconscious of the events of the past two years, with the exception of remembering his raving, and its topics.

He recognized one of the attendants, and requested he might remain with him, in case he should relapse into his former state. Having made some other correct arrangements, his mind appeared quite at ease. Everything was done to reassure him, and keep up this state of mind, which continued for more than two hours; then gradually the former imaginary visions began again to pass before his mind, the former sad raving recommenced, and from that time until his death, which took place six months after, not a trace of intelligence manifested itself.

All that we could conjecture from this remarkable lucid interval was, that the portion of the brain, which was undergoing inflammation of that low and circumscribed form, so often attacking nerve fibre, by its

irritation, gave rise to the exalted delirium and tremors, with slight general paralysis. That the continuance of the inflammatory process had caused destruction of nerve cell, and consequent softening of nerve fibre, which had given way, causing the increase of paralysis, and by its solution of continuity had stopped the cause of irritation, and permitted the mind to act normally. As in cases of gangrene, when the part dies there is temporary cessation of irritation; but as in this case, so soon as the inflammatory process advances to the adjacent structures, irritation is again lighted up.

What an error it would have been, on being called on to see such a case during the lucid interval, to have pronounced such a change as the precursor of recovery, while on the contrary, if such a mental change had taken place in some of the other forms of insanity, it would have been right to pronounce that recovery was at hand, and by judicious treatment would soon be established.

As in acute mania, followed by collapse, from which the patient sometimes arouses perfectly sane, and in some cases without collapse, apparently as if awaking from a dream.

A short time since we met a most interesting case in which this took place, and which has so much bearing on the opposite side of the question that I may be permitted to enter more fully into its details.

A young lady had an attack of acute mania, accompanied with violence and incoherence.

A week after the commencement of the attack she was placed under the care of an experienced woman, who took insane ladies into her house. After three months had elapsed, there being no decided change for the better, she was removed to Hampstead House, an evident case of mania, which after a month changed to almost complete apathy, with slight symptoms of catalepsy. The patient was apparently unaware of the calls of nature, passing everything under her. Her eyes were fixed—she allowed food to remain in her mouth, making no exertion to swallow. If undisturbed, she would remain in the same attitude throughout the day. When placed in bed, she would remain in the same position until removed. So profound was the collapse, that she was supported by enemata of beef-tea, &c., and the introduction of fluids, through the nose, with a syringe. She remained in this state for about three weeks, when one day, rising from the sofa on which she had been lying, she took a chair, and drew it to the fire, asking her attendant how long she had been ill. From that time she continued well, until, seven years after, in consequence of the death of her father, to whom she had been much attached, another attack of acute mania came on. She was conscious of her state, and at once placed herself under our care. The second attack was characterized by the same violence as the preceding one, for eight months, when a similar state of mental collapse followed, it being necessary for a short time

to feed through the nose. The symptoms of catalepsy were more decided than during the former attack. If her arm was raised and placed in any position, it would remain so for hours. In the same manner as on the former occasion, one day, quite unexpectedly, she rose up from the couch on which she had been lying, said she was quite well, and that the attack had passed off the same as before. She was so prostrated that it was with difficulty she walked without assistance. She was slow in recovering her bodily strength, but from that day her mind has remained perfectly well, now about two years.

Now, in this case, as in many of the same type, we were justified in pronouncing such a change from excitement to the opposite state, and followed by a sudden return of reason as denoting recovery close at hand; and if we are able to lay down, as a rule, that there are forms of insanity in which we cannot rely on a sudden change to rationality as a favourable symptom, while there are others of a different type in which we can, I believe we open up a field of inquiry which would place our too often hazardous prognosis and treatment on a firmer basis, and not allow us to fall into the error which even one of our most eminent psychologists has done, in not recognizing the changes to recovery, and by uncalled for interference bring on complications, thereby retarding improvement, as in a case given by Esquirol, and in which, in consequence of his not recognizing the change from mania to apathy, simulating dementia, as a most favourable symptom, and the precursor of recovery, he fell into the grave error of adopting such treatment as brought on a recurrence of the maniacal symptoms.

The patient, when twenty years of age, had for three months violent pain in the head. She suffered from insomnia for four days, and afterwards from delirium. She was brought to the Salpêtrière in a state of mania, which lasted for nearly two months. The patient then sank into a state of complete dementia; she appeared insensible to everything that was passing around her—did not change her place—never spoke—not even in reply to questions addressed to her. This state continued for two months, when Esquirol applied the actual cautery to the neck. This provoked a general irritation, and a maniacal delirium, which lasted for several days.

In giving the case of general paralysis it may be replied to me, that in that case there was an incurable and slowly destructive bodily disease, and that no one would pronounce recovery possible; even so, accepting it in this way we are enabled to separate this from other forms of insanity, and to assert that what is favourable in the one is highly unfavourable in the other; but there are other forms of mental disease, unaccompanied with paralysis, which, I believe, on close examination, would show that the same symptom, of sudden return to rationality, would not bear a favourable prognosis. For instance, in chronic mania, during the height

of a furious outburst there is a sudden change to perfect rationality, succeeded, in a short time, by a recurrence of the former excitement, the important stage of collapse, which is so often the precursor of recovery in acute mania, not having been reached.

If we take into consideration changes of delusion we will find that some are favourable while others are decidedly unfavourable, for, in religious melancholy, with suicidal desire, when the religious delusions change their form, and from predisposition to suicide there is a change to the opposite—to the state of beatitude, in which the patient has free communication with heaven, &c., experience will teach us that this is a most favourable change, and often followed by recovery. In illustration I may give the case of a young lady affected with religious melancholy, who, having escaped from her friends at night, was taken by the police on the banks of the canal, which she had reached for the purpose of throwing herself in. She was then placed under our care, and for some time manifested extreme religious despondency, which gave way, changing to the opposite extreme, and when in a state of ecstasy she believed she held direct communication with heavenly beings; this state was soon followed by a more moderate tone and complete recovery, which has continued for several years. On the contrary—this being a case of suicidal insanity—if the change had been to homicidal desire we could not consider the change a favourable one.

I do not mean to say that all cases, according to their type, follow out a definite course of recovery, because they are often mixed with other forms, but I do consider that such cases as represent most truly the type of insanity to which they belong have wide differences in the symptoms that denote recovery, and that the diagnostic value of those symptoms can alone be arrived at by keeping in view the form of insanity in which they occur.

As another large class of cases which have their own special form of recovery, I may instance those which follow great physical prostration from a temporary cause, which, though removed, has lowered the bodily strength, and is followed by febrile exacerbations and mental excitement. Now, in such cases, you may watch with interest the phenomena that as the bodily health improves, so the mind, in its contest for supremacy, at first will feebly, and for a short time, manifest its returning power of control, followed by even increased excitement; but as strength returns, so the interval of improvement is lengthened, until gradually recovery is established. In such cases I think our judgment as to probable recovery can be much assisted by a careful examination of the intervals of excitement; and by accurately comparing them with former ones, so as to ascertain, as strength returns, whether they are more defined, or of longer duration, denoting the course to recovery, while, on the contrary, if the intervals become less marked, and there is a gradual blending down of the extremes, dementia is likely to follow.

Therefore, I submit, there are those differences in symptoms of recovery, according to the type of insanity; and yet, if we examine well-known authors we find that very few of them have taken notice of this most important subject—symptoms prognostic of recovery—and that those who have, have thrown aside the classification of insanity as affording no assistance, with the exception of its statistical value, that more recoveries take place in one form than in another; but as to the manner of recovery, it is a subject of so much doubt and perplexity that they can only point out such favourable symptoms as are applicable to all forms alike, necessarily limiting their remarks to a very cursory view of the subject. For instance, in Bucknill and Tuke's able work on *Psychological Medicine*, which has recently passed through a second edition, and which is the most exact and precise work on insanity we have, going carefully into its history, classification, description of each form of disease, diagnosis, prognosis, and treatment; yet they have not given ten lines to the symptoms that accompany and precede recovery, distinguishing and comparing their value according to the form in which they occur.

Again, in Wood's *Practice of Physic*, having occupied much space with diagnosis and treatment, and an admirable description of each form of insanity, he concludes the article on Mania with a few remarks on symptoms of recovery as follows:—"These remarks in reference to the cure of mania apply also to the other varieties"—plainly showing that, in his opinion, there is no symptom of recovery more applicable to mania than to any other form. Again, in Borrowes' *Commentaries on Insanity*, he recognizes the value of close observation and of the careful study of the first symptoms of improvement, as in speaking of all forms alike, he says:—"It will readily be conceived of what importance it is to recovery that these incipient signs of waking from a long night should be most attentively regarded and cherished; should they be repulsed by neglect or ignorance the mind may again be plunged into that disorder whence it is making feeble but sure efforts, if encouraged, to emerge." But in treating of the disease in its separate forms, he points out no distinctive outline to assist our treatment; for instance, in speaking of puerperal insanity, he curtly remarks that when the symptoms of cerebral excitement subside, the exhibition of mild tonics is advantageous. Now, this is one of the most curable forms of mental disease, and yet, according to Borrowes, its progress to cure does not need a separate description.

Neither Connolly nor Forbes Winslow, in their many valuable works on mental disease, have alluded to the distinctive symptoms that denote recovery in each form, nor am I aware of any writer on insanity who points out such a distinction.

A recognition of the various types of insanity can be traced from the earliest ages. The Roman law divided insanity into two classes—*furiosi*

and *mente capti*. Hippocrates is considered to divide it into three forms. Celsus also divides it into three, on a different basis from Hippocrates; and although many classifications follow, many of them most complex, we have to come to the time of Pinel and Esquirol, before we have one of easy and universal application; although I believe it holds the position of universal application to every case of insanity, yet as research and inquiry into mental disease place its study on a firmer basis, we require a classification more adapted to our present knowledge; and suggestive of a further advance in this position, we hail, with pleasure, the admirable one laid before the profession by Doctors Bucknill and Tuke, as follows:—

1. Idiocy,
2. Dementia,
3. Delusional insanity,
4. Emotional insanity,
5. Mania,

With their complications of paralysis or epilepsy.

Now, we are generally able to place each case of insanity under one or other of these heads; and if so, we have taken the first step towards a correct prognosis. No doubt, in some cases, a change will take place from one form to another, but we must look on such a change as an accidental circumstance, being a complication, and as in other forms of disease, showing the necessity of being prepared for unexpected complications; but I consider this an accidental occurrence, and that we are in no way bound to pronounce that it is the normal course of the disease. In other cases circumstances sometimes occur that are so prejudicial to recovery as to compel a complication such as a change from one type of insanity to another; thus in the case of a gentleman who, with humour and energy, related to me the circumstances of his being placed in a private asylum while labouring under religious monomania, and having sunk into a state similar to that of trance, lying motionless, with his eyes fixed, the superintendent of the institution, who was a non-medical gentleman, but who aspired to the honour of treating the insane by medical means, one day having a strait-waistcoat placed on him as a precautionary measure, had him placed on a sofa, and believing the strait-waistcoat sufficiently strong, dismissed the attendant, and then unexpectedly, so as to take the patient by surprise, commenced a series of shocks from a galvanic battery; for a time the patient resisted the thrilling effects, but soon made up his mind that the devil was personified on earth in the person of his tormentor, and that it was his duty to slay him. Springing from the sofa he kicked the table over on which the battery was placed, burst the strait-waistcoat, as if it was rotten, rushed on the superintendent, whose cries brought several attendants; after a struggle, they

succeeded in mastering him, but from that day out for years, his insanity changed its form into that of homicidal; he made several attempts on the lives of the superintendent and attendants. The patient's account of this affair was afterwards confirmed to me by the superintendent.

He has now been under our care for several years, and has frequently exhibited a homicidal tendency.

Again, the indulgence in intoxicating liquors to excess will often change the type of the disease, as in the case of a gentleman, who was under our care, and who was a decided case of delusional insanity, believing in a conspiracy against him, he was brought before a jury under a commission of lunacy; the jury returned a verdict of sanity; being restored to liberty, he at once gave way to every excess, and within six weeks had a violent attack of mania, the precursor of general paralysis, of which he died.

I will now briefly lay before you, according to the foregoing classification, some of those symptoms which denote improvement, commencing with the first form, that of idiocy, now all but removed from the hopeless and incurable. In it we consider the first symptom of improvement to be an increased power of attention which fixes the passing idea, and after a time brings about memory; next you have the power of comparing objects revived by memory with those present, thereby producing complex ideas. Now, in a case of idiocy, uncomplicated with physical disease, if we keep these changes before our view we can without difficulty ascertain what amount of progress has been made, and by fair inference, what may yet be attained.

We have next dementia, which we must divide into acute and chronic. Taking acute dementia first, we find a disease lower in the scale than that of partial idiocy. In partial idiocy ideas appear to be originated; but as fast as they are formed they pass out of the mind, leaving no trace. In acute dementia the power of originating ideas appears to be lost, and physical life is uninfluenced by mental action, being reduced to a state akin to vegetable existence. Now the gradual changes from this low position can be traced from the first gleam of thought, often momentarily lighting up the countenance, soon to relapse into its former vacancy; if we apply stimulants to the various senses we may find one of them easily affected, and this gleam of returning intelligence brought about. Thus, in the case of a gentleman, suffering from acute dementia, who was placed under our care some years ago, so profound was the loss of mental power, that he could not be roused by ordinary means, even to swallow his saliva, but remained with his eyes fixed, his mouth open, and the saliva flowing freely down his chest; food being placed in his mouth remained unswallowed. Having tried various means of rousing his attention, which failed, music was accidentally introduced; immediately a gleam of intelligence passed over his face, and soon he was able to drink a tumbler of porter that was near him; without assistance he took

the knife and fork and fed himself: but if the music ceased that moment he would lay them down and relapse into his former state; at this time he had had no food for three days. For some time music was had recourse to during his meals; he gradually roused out of this state, and after a few months was perfectly restored, remaining well for the last fifteen years. Now, in cases of acute dementia, when we can by slight causes bring about this apparent return of intelligence, not followed by excitement, I consider it a most favourable sign. Again, if we find a gradual but slow progress towards recovery, manifested by a steady restoration of general health, with an absence of any occasional incoherence, we may be satisfied all is doing well.

On the contrary, as the general health improves, if we have slight attacks of excitement occasionally repeated, evidenced by brightness of the eyes and sleeplessness, we have to fear a downward course, ending in chronic dementia, from which recovery almost never takes place after it has continued any length of time. All forms of insanity are liable to this result, but such cases of chronic dementia as do recover, I think it can be laid down that the majority of them trace back many of the original downward steps before improvement sets in.

Delusional insanity comes next, and comprises so many subdivisions that I shall only point out such changes as may equally apply to all, hoping that the day may yet come when, by continued research, distinctive symptoms can be pointed out as accompanying each sub-class.

As improvement takes place in delusional insanity we usually find less anxiety to talk on such delusions as held the least prominent position. After a time there comes about an unwillingness to allude to them, although the most prominent may still hold its sway, but it, in its turn, will yield, and often a feeling of shame will make any allusion to it unpleasant. We must also consider any decided change of delusion in most cases a favourable symptom, provided it is not the result of false sensation, due to organic disease of the brain, or other organ, such as we often meet in disease of the stomach or heart, or from arrested disease of the brain.

Where the mind is affected by loss of control of emotion, so as to interfere with its normal action, such cases come under the head of emotional insanity—the fourth in our classification, and divided into moral insanity, mania, with suicidal and homicidal impulse, &c., and melancholia without delusion; for our present purpose we will also include mania, acute and chronic, in which the emotions are so much affected as to permit our placing them together for consideration.

To form a just estimate of symptoms of recovery in so large a class, embracing so many disordered emotional propensities, we may lay down, as the first necessary step, a complete acquaintance with the previous history, and a knowledge of what amount of hereditary influence bears

upon the case; we then consider are they approaching what they were previous to any mental affection, do they recognize these undue emotions as arising contrary to their own better desire, and what amount of control are they conscious of gaining over them, what length of time has elapsed since these abhorred emotions last presented themselves, and whether that interval has increased in comparison with former periods; and when they last appeared did they come with as much force, or were they brought about by as slight a cause? These considerations more particularly apply to those forms of emotional insanity, unaccompanied with raving, such as moral insanity, suicidal and homicidal impulse. Those accompanied with raving require separate consideration.

In acute mania it is not until the disease has passed its height that we are able to place any confidence in whatever favourable change may take place. Then, in many cases, if we attentively watch that peculiar collapse of mental power which I consider distinct from dementia, in the commencement of which, and often all through, we are able, by taking too much notice of the patient, to bring on raving again, but when we find dementia setting in, our presence becomes less and less recognized. Now when we find this peculiar collapse follow an attack of mania, I believe it is a favourable symptom, and that the patient (as in the case I have already cited) may sometimes arouse into perfect sanity.

Some cases take on an intermittent type, having an exacerbation every third or fourth day; in such cases we must compare the duration of the interval, and if the interval is increasing, although the attacks may be more severe, I consider the case is progressing favourably.

As to the recurrent form of mania having an interval, in some cases of years, in others of but a few months; in many such cases, if we carefully examine them during the height of the attack, or as it declines, we often find it accompanied by difficulty of utterance, or strabismus, or a remarkable gait, or some slight and temporary lesion of volition.

I have thus endeavoured to place before you some of the leading distinctive symptoms of recovery accompanying the different forms of insanity; in doing so I have only mentioned the most prominent. I feel sure there are many more that, by careful observation, we will find, hold as valuable a position in assisting our prognosis and treatment. In reciting the various cases I have placed before you, I do not put them forward as in themselves conclusive, but in illustration of my views on the subject.

It may be thought by some that I have placed too much value on the mental symptomatology of this disease; but when we consider that all authorities agree that its forms admit of a distinct classification, such classification being founded upon the mental symptoms, and that by it we arrive at statistical results, which pronounce one form more curable than another, I in due course maintain that such cases as are uncomplicated follow a distinct course to recovery.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.^a

Dr. R. W. SMITH, President.

Phlebitis of the Portal Vein.—Dr. GORDON exhibited a specimen of suppurative inflammation of the portal vein, and gave the following account of the case:—

John Byrne, aged thirty-eight, a porter, was admitted into the Whitworth Hospital on the 27th of October, 1866. He is a sallow, emaciated looking man, in a very prostrate condition, talks slowly, and in a low tone. There is considerable tumefaction of the liver; it fills up the epigastric region, and extends down to the umbilicus. There is no well-defined tumour, nor perceptible enlargement of either lobe in particular, but general increase of size of the entire organ, with a prominent bulging forward of the right lobe. To this situation the patient refers all his pain, which he describes as intense, dull, aching. The pain is increased very much by pressure. There is a peculiar hardness and tension of the abdominal muscles on the right side, which contrasts remarkably with the flaccid condition of those of the opposite, and there is dulness on percussion over the right side of the chest, as high as the fifth rib; there is no disease of the right lung or pleura; the respiration is slow; pulse 96. He has some diarrhea, the dejecta being of a greyish-brown colour.

The patient states that some time ago he received a severe blow in the right side from some moving machinery, and that since then he never felt quite well. About five weeks ago he began to suffer from headache, sick stomach, and pain in the epigastric region, and has since then been rapidly emaciating and losing strength; he has also latterly had repeated fits of shivering.

This man was exactly one month in hospital; he died on the 27th of November, and the daily record of his sufferings may be briefly summed up as follows:—He shivered at irregular times, but on an average every third day; this shivering was followed by a profuse cold perspiration, and then by a still colder stage which left him in an increasingly profound state of weakness; he gradually lost all appetite for food, and had hiccough, vomiting, and a constant feeling of nausea. He slept well by means of opium, but when he was awake he was always in pain, and he could only lie on his back, sometimes inclined a little to the left side; he had occasionally diarrhea, and the stools became eventually almost white. The urine became very scanty and loaded with an enormous amount of lithates.

^a These reports are furnished by the Secretary to the Society.

Emaciation rapidly progressed. The patient was attacked with a form of intermittent vomiting; one day it was so severe and constant that he could not retain a particle of nourishment, solid or fluid: then it ceased for two or three days, and he was able to take food comparatively freely; but at length he wasted away, became comatose, and died. He was never jaundiced, but was of a very light lemon colour.

There was but little change in the local symptoms; the projection in the right lobe of the liver became more prominent, and fluctuation was distinct, and the seat of tenderness became more extensive, extending over the entire organ.

Post-mortem Examination.—Notwithstanding the insertion of a deep caustic issue over the tumour no adhesion had taken place between the layers of the peritoneum; an adhesive peritonitis, to a very slight extent, was forming between the under surface of the liver, and two spots of small intestine. With this exception the diseased appearances were confined to the liver. A very careful examination failed to detect any ulceration in any part of the gastro-intestinal mucous membrane.

The liver was very large, of a very pale colour; smooth on the surface, except where an abscess in the right lobe was projecting; it was near the surface, was filled with thick creamy pus, and could have contained a small hen-egg.

Sections of the liver showed that both lobes were occupied by numerous small abscesses, not less than twenty in number; they were very irregular in their shape and outline, on an average about the diameter of a shilling, some larger and some smaller; their contents were all alike, and all the same as the matter found in the projecting abscess. Many of them were most characteristic of the phlebitic abscesses found after amputations, or in the other forms of diffuse inflammation.

And an accurate examination was made of the remainder of the body, but no purulent collection or any other appearance indicative of phlebitis could be found except in the liver. I am indebted to Dr. Foot for the following minute examination of that organ, which he undertook to follow up for me:—

The primary divisions of the portal vein were inflamed, their coats thickened; laminated coagula, like lymph cylinders, lining their interior, and diminishing their calibre; the subjacent lining membrane of the vein stained from imbibition of the colouring matter of the blood; there was purulent matter in all the ramifications of the portal vein, at some places of a pure yellow colour, and apparently homogenous and laudable, in others stained of an orange colour from bile; the thickening and other signs of inflammation were confined to the two large primary divisions of the vessel. In none of the branches or tributaries of the hepatic vein was there any purulent deposit or alteration from natural conditions. Parts of the texture of the liver, especially of the right lobe, were like a sponge

soaked in pus from the number of abscesses of minute size occupying the terminal stazes of the portal veins.

The origin of the disease evidently was a thrombus in the portal vein, which irritated, by its presence, the walls of the vessel, leaving in consequence the appearances found. This thrombus eventually became disintegrated by purulent metamorphosis, and occasioned metastatic deposits; for such cases there are precedents given by Frerichs, Vol. ii., *Diseases of Portal Vein*.—December 1, 1866.

Excessive Distension of the Intestines in Typhoid Fever.—Dr. LYONS stated that the specimen which he had to present to the Society was taken from the body of a man who died of typhoid fever under circumstances which, according to his experience, were rather unusual. He was admitted into hospital about the fifth or sixth week of his illness; and looking back at the history of his case, it would appear that he was labouring under that form of the disease in which the fever in the first instance is comparatively insignificant, and in which the lesion in the intestinal tract is not brought into activity till several weeks after the commencement of the primary fever.

When admitted into hospital he laboured under great depression, and, without entering into minute details, it may be stated that the principal phenomenon of the case at this period was intense pain in the lower half of the abdomen, and enormous distension of the whole abdominal cavity. He was placed under appropriate treatment, but he died rather unexpectedly; and having in view what occurred in two previous instances which came under his observation, it appeared to Dr. Lyons to be worth while to make a *post-mortem* examination, to determine whether, under similar circumstances, it would be possible to afford mechanical relief from without. With this view Dr. Lyons performed an operation which had for its object to get access to the cecum at that portion which is usually uncovered by the peritoneum. He failed, for reasons presently to be noticed, to reach the cecum, and on reaching the abdominal cavity there was a forcible escape of highly noxious gas; on proceeding further with the *post-mortem* examination it was found that the intestines were most enormously distended. The colon was of great size; and the smaller intestines were also immensely dilated, and had forced up the colon before them to a great height, and so carried the cecum from its natural situation, so that it lay several inches above the point at which ordinarily it would be expected to be found. This, Dr. Lyons observed, is an operation which has not been performed, so far as he was aware, with the view of relieving unnatural distension in the human subject, but in the lower animals relief is not unfrequently given by operation from without. The case reminded him of two of a somewhat similar kind, one in which a female was taking daily, for six months, a large quantity of alum, with

the view of preventing excessive hemorrhage when she should next be confined. In that instance the abdomen reached an amount of distension that it was almost impossible to conceive, but the patient ultimately recovered. The next case of extreme intestinal distension which he had met was that of a man, who, after being under treatment for a fortnight, suddenly turned to the wall, and shot from his mouth a vast quantity of semifecal matter which almost reached to the ceiling in the room where he was, and he died on the spot. Dr. Lyons stated that he had no doubt death ensued in this case from rupture of the intestines. In this instance the intestines were distended to an enormous degree, but there was no *post-mortem* examination allowed.

In the case immediately before the Society the arch of the colon was of an immense size; the smaller intestines were also much distended, and there was, even during life in all probability, a large quantity of gas in the peritoneal cavity. He died rather unexpectedly. He was left on a certain day not more distressed than he was for several days previously, during which he was labouring under this extraordinary distension, and he died during the night without the accession of any new phenomenon. On examining the lower eight or ten inches of the ileon intestine, there was found a large quantity of typhoid deposit in the solitary glands, and the lower patches of Peyer were also surcharged with deposit. It is surprising that the man lived for such a lengthened period; and the case is interesting as showing that such cases will run on for a long time. The man must have been ill at least six weeks before his admission into hospital, and partly from his own statements, and partly from those of his friends, it would seem that his case was not considered serious till he was admitted into hospital.—*January 19, 1867.*

Cancer of the Liver, &c.—Dr. LAW exhibited a specimen of cancer of the liver, and of the right pleura and lung, taken from the body of a female, aged 54. She had been engaged in active service as cook, until about four months before her death. She first began to complain of pain of the right side, just below the ribs. This pain became so severe, and her general health so much affected, that she was obliged to leave her situation, and seek admission into hospital. Having continued a month in hospital she felt so much better that she thought she might venture again to undertake a service. She soon found that she had over-rated her strength, for she was soon knocked up, and was again obliged to go into hospital. The pain in the right side still continued, and her breathing had now become affected. Dr. Law could obtain no very exact information of what was done for her as to treatment while in hospital, nor what was the diagnosis of her disease. As far as he could learn, he had reason to believe it was thought to be a case of chronic pneumonia. She again left the hospital, and at the end of a month was admitted into

Sir Patrick Dun's Hospital, almost moribund; brain congested; dulness to percussion through all the anterior right chest, without a trace of respiratory murmur, or any modification of it. The heart's action was heard through all this side. Percussion was clear, and respiration distinct, in all anterior left. She was too weak to be subjected to an examination of the posterior part of the chest. The abdomen was swollen, and contained fluid. The blunt margin of the liver could be felt below the ribs, as also an unevenness of its surface. The right hand and arm, and both lower extremities were œdematous. She survived her admission into hospital very few days. *Post-mortem* examination exhibited the following appearances:—The right pleural cavity contained considerable quantity of straw-coloured serum. The entire of parietal lamina of the pleura of this side was converted into a soft encephaloid structure, varying in consistency and depth in different parts. Its greatest depth was where it lay on the diaphragm and the mediastinum, where it was nearly an inch thick. The lung, much reduced in size, was pressed against the spine; in its substance were a few firm whitish tubercles, which seemed to push aside the pulmonary structure in which they were embedded. This structure very much resembled a portion of lung in a state of atelectasis. The left lung exhibited no appearance of disease, nor did the heart. There was some, yet no considerable, amount of serous effusion into the cavity of the peritoneum. The liver was enlarged, and was studded on both its superior and inferior surfaces with whitish tubercles, varying in size, and of firm consistency, some of them as large as chestnuts. These tubercles did not present the ordinary dimpled appearance that cancerous tubercles usually exhibit. Dr. Law remarked that it was the fourth case of cancer of the lung and pleura that he had brought before the Society, and the immediate cause of death in each was pleuritic effusion, the effusion being always the same serous fluid that is found in cases of ordinary acute pleurisy. He also remarked how much more, in all the cases that had come under his observation, the pleura was affected than the pulmonary parenchyma, the disease seeming, as it were, to spare the latter by pushing it aside. This case seemed to confirm the remark of Rokitanski, that cancer of the pleura never occurs as the first in a series of cancerous deposits occurring in an individual, but is always the result of a cancerous dyscrasia that has previously developed itself in other structures.

Dr. Law had no doubt that in this case the liver was the organ first affected, as it was to its position the patient first referred her pain, and continued to do so for a considerable time. He noticed the peculiarity of the tubercles of the liver, in not presenting the dimpled appearance so constant in cancerous tubercles in this organ, and which is almost regarded as characteristic. Still the cancer existing elsewhere left no doubt that the tubercles were of the same malignant nature. Dr. Law

remarked on the obscurity that attends the diagnosis of cancer of the lung, when the disease has not developed itself in some other part, where it may be more easily recognized. Thus, for example, in one of Dr. Law's cases, the subject was a female who had had her breast removed for cancer six months previously. Her previous history furnished a clue to a suspicion of her disease. In the present case there was much room for doubt, both as to the condition of the liver and the lung. The blunt margin of the liver, and its uneven surface, with the ascites, might easily have induced the belief that it was cirrhosis of the organ—a mistake which, it may be urged, should be corrected by its being felt below the ribs, which is not usual in cirrhosis. No doubt a liver in a state of cirrhosis is not commonly felt below the ribs, but it is so sometimes, in consequence of the fluid in the peritoneum interposed between its surface and the diaphragm pressing upon it, and causing its descent. There was some difficulty, also, as to the state of the lung. There is reason to believe that it had been considered in a condition of chronic pneumonia, an opinion which the physical signs warranted. There was a universal dullness through the side, with a complete absence of respiration, and the heart's action very distinct through the side. These signs continued when she came under Dr. Law's care, still he could not recognize an exact relation between the physical signs and the constitutional symptoms, the latter not bearing a due proportion to the former. He, therefore, suspected more than mere chronic pneumonia, according to Rokitanski's canon of diagnosis in such cases, viz.—“When you do not find sufficient explanation of the symptoms in the physical signs, suspect malignant disease.” The application of this rule to other similar cases had directed Dr. Law to a correct diagnosis, and therefore he applied it to the present case.—*February 2, 1867.*

Disease of the Aortic Valves.—Dr. STOKES said that, although the specimen which he now presented to the Society did not show any great degree of morbid change, yet the case was of importance, inasmuch as it illustrated a principle in the diagnosis of affections of the heart, viz., that we cannot always infer the amount of organic disease from the intensity or amount of the physical signs. The patient, a man somewhat over the middle age, got cold last August, and very soon afterwards became conscious of a sensation of fremitus in the region of the heart, which he very aptly compared to the purring of a cat; this remained up to the period of his death. He was admitted into the Meath Hospital some time ago, then discharged, and afterwards readmitted. The physical signs were these:—Action of the heart weak; pulse weak, but regular; it had not the collapsing character of the pulse of permanent patency of the aortic valves, but each contraction of the heart was accompanied by a loud mewing sound, which was heard from the base of the heart along

the sternum up to the region of the carotids ; it was scarcely distinguishable in the carotids, but was heard loudly along the spine, even without the aid of the stethoscope ; the observer, placing his ear within a few inches of the sternum, could hear it distinctly, just like a humming top. The second sound of the heart was extremely weak, so as to be barely audible ; and this led to some difference of opinion, in the first instance, as to which sound this loud murmur belonged. The conclusion was finally arrived at that it was a systolic murmur, and that the aortic orifice was diseased, although not permanently patent, for there was no regurgitant murmur. From the last example he had seen in which this humming-top sound occurred, he expected to find a large amount of organic disease. He had never had an opportunity of seeing more than one example of a heart thus affected. It was the case of a gentleman, sixty years of age, in vigorous health, and going through a vast amount of important public business ; and yet such was the loudness of the sound, that his colleagues at different boards of which he was a member were unable to sit at table with him, and he was requested to resign several important offices. Every beat of his heart was accompanied by this loud humming-top sound ; and in this state he remained for some time, apparently in perfect health, until the period of his death arrived. In that case nothing could exceed the amount of organic disease of the aortic orifice. There was a series of bony spiculæ running down from the origin of the valves to the ventricle, giving it the appearance of a shark's mouth.

In the present case, however, the amount of organic change was but slight. The heart was very little altered. There was a slight patch of atheroma about the valves. The aortic orifice was not permanently patent ; and one of the valves was slightly thickened and contracted, and a few small atheromatous deposits were seen in it.

The case showed that they must take care, in physical diagnosis, not always to estimate the amount of disease by the physical signs. The immediate cause of death was congestion of the left lung, attended with hemoptysis.—*February 2, 1867.*

Fatty Degeneration of the Kidney.—Dr. FINNY said the morbid specimens which he now presented to the Society were taken from the body of a man, admitted eight days ago into the Meath Hospital, under the care of Dr. Stokes. He was fifty-three years of age, and had been of very intemperate habits up to twenty years ago, when he became sober. He was exposed, as a labourer, to many colds and wettings ; but, with the exception of the last time, he had never suffered for more than a few days. His last illness was caused by exposure to wet and cold while attending in a sty on the accouchment of a pig for seventeen nights. He then noticed his feet began to swell. His urine changed in colour,

and became turbid and less in quantity. He experienced severe pain also in the back.

The swelling increased daily for three weeks, until, on admission, his whole body was anasarcaous—hands, face, scrotum, and penis, as well as the trunk. The urine, being examined, was found to be of a deep red colour, highly albuminous, and loaded with lithates. Fifteen ounces only were passed in the twenty-four hours.

Under appropriate treatment the swelling went down considerably, and the pain in the back was relieved. However, after a few days of apparent improvement, all the symptoms returned, and he died on the 30th, after spending a most restless night. He complained of no headache, and had no convulsions before death. He had vomiting once only on the morning of the 30th.

The kidneys he now showed were remarkable for extensive fatty degeneration, the cortical portion seeming literally converted into fat. Dr. Finny considered these specimens worthy of being placed before the notice of the Society, not so much for their pathological interest, as being examples of an all-important organ having latently undergone degeneration to a great extent for a considerable period, without causing any inconvenience, and at last having discovered itself when too late to be remedied.—*February 2, 1867.*

Case of Cancer of the Liver; Rupture of its Serous Covering: Compressed Heart.—Dr. GORDON made the following communication, and exhibited the specimens:—The subject of this very rare and unusual complication was a man, aged fifty, who was admitted to the Whitworth Hospital on the 1st of January in the present year. At the time of his admission there was no difficulty in diagnosing his disease to be a cancerous enlargement of the liver, although his countenance and general appearance were by no means characteristic of malignant disease. He had been two months suffering from loss of appetite, with an uneasy sensation and feeling of weight in the right side, with slight irritability of the stomach. The hepatic region was occupied by an enlarged liver, which was also very irregular on the surface, and some of these eminences were depressed in the centre. The size of the organ at this time (1st of January), as far as could be judged by external measurement, was about one-fourth of the dimensions to which it subsequently attained. The hand could now be easily got under its inferior edge, and all the parts in the left hypochondriac region could be distinctly felt, and indeed a very accurate examination of the entire contents of the abdomen could be made with facility.

Up to the period of his admission, and for a full week afterwards, this formidable disease caused but little distress.

On the 9th of January he began to suffer from vomiting, constipation, and pain in the abdomen.

On the 11th the bowels had been freely evacuated, and the urine was secreted in normal quantity, but the irritability of the stomach continued; and from this time until his death, on the 31st, he was never altogether free from those two distressing symptoms—severe pain in the epigastric region, and either vomiting or inclination to do so.

The liver commenced now rapidly to enlarge, and almost daily there was an appreciable increase in size forwards of the irregular growth, and of the entire organ into the cavity of the abdomen.

On the 21st he began to complain of intense dragging pain in the belly, quite different from the sickening pain which he before complained of. This was doubtless caused by the rapidly induced tension of the walls of the abdomen. There was scarcely any ascitic fluid in the abdominal cavity, nor did the patient show any sign of tympanitic distress. The increased size of the abdomen was therefore referrible solely to the rapidly enlarging liver. Another symptom may be briefly noted—the rapidity with which emaciation progressed. When the patient came into hospital he was a strong man; but debility and wasting set in almost immediately.

About this time some new symptoms presented themselves—the lower half of the body became anasarous; the urine was very deficient in quantity, and loaded with lithate of ammonia; and he began to suffer from palpitation. No disease of the heart could be detected. The liver continued to increase in size with immense rapidity.

On the 28th of January he was suddenly seized with intense pain in the abdomen; I found him in a state of complete collapse; no pulse perceptible, covered with perspiration, panting for breath, and supporting the abdomen with his hands. The heart's action could not be felt, and was scarcely audible. Remembering what sometimes occurs in these soft cancers, I thought it probable that there was in this case some extravasation of blood into some softening part, and that even a small loss of blood might have caused this complete collapse, although it would not have accounted for the pain which he was suffering.

The window opposite to him was widely opened, and the cold air freely admitted on him, and the usual restoratives were administered. In the course of some hours he recovered, and next morning he was quite restored from the state of collapse; but the pain, although by no means so excessive, never entirely left him.

On the 30th he was very weak, sinking fast. The walls of the abdomen, where he had been rubbing some iodized mercurial ointment, were becoming gangrenous. He died on the 31st. There was no jaundice at any time, but latterly he had the *jaune terreuse* hue so usual in cirrhosis of the liver.

Post-mortem Examination.—The enlarged liver seemed to occupy the entire abdominal cavity: when the ordinary sections of the abdomen

were made, and the walls reflected, nothing else was visible. It weighed rather more than twenty-four pounds. It had entirely lost its ordinary shape, and, when removed from the body, seemed like a large irregular ball, having numerous projections on all parts of its surface; these were cancerous tubercles, most of them having a depressed centre and corrugated margin. Sections of the liver showed that the same disease was also most extensively developed through its substance; and, when they were incised, softened cerebriiform matter exuded from the centre of almost all these tumours.

The collapse of the 28th instant was caused by a rent of the peritoneum over the right lobe. It was in a perpendicular direction, three inches in extent. Adjoining the rent the serous membrane was now detached by a subserous effusion of blood. There was but a small quantity of blood in the cavity of the peritoneum; so that the collapse was, in all probability, caused as much by the actual rent as the loss of blood. This latter was to so small an extent, that it must have been immaterial but for the patient's reduced condition, and the changes which had taken place in the condition of his heart.

There was an extensive development of small cancerous tubercles through all the peritoneum, and over the pulmonary pleura, and in the lumbar glands.

The condition of the heart was very remarkable; I have never seen but one case exactly similar, and this occurred many years ago, under my own immediate observation, in the Whitworth Hospital; the case is published by Mr. Adams, in the Pathological Reports, vide *Dublin Medical Journal*, Vol. XIX., p. 322. The heart is still preserved in the Richmond Hospital Museum, and retains the shape and appearances which it then presented. In the present instance the heart was quite folded up, the ventricles, particularly the right, being quite compressed and flattened, while at the same time the wall of the ventricle was pushed inwards on itself, so that if a sharp instrument were driven through the ventricle at its external third, it would pass through the wall four times, or in four places. This condition was evidently of considerable duration, for where the ventricular walls were so compressed there was, as in the case published by Mr. Adams, a parboiled appearance, and also a gelatinous effusion, showing that they had been in contact for a long time.

The heart lay completely horizontal, the right ventricle of course quite empty, and the left nearly so. This condition of the heart was in all probability purely mechanical, produced by an emphysematous condition of the lung above, and the over distended state of the abdomen below; the symptoms which belonged to it were, the intermitting pulse, the imperceptible action of the heart, and its feeble sounds; and the gangrenous condition of the walls of the abdomen, the part in which, in the present instance, the capillary circulation was carried on at the most disadvantage.—*February 2, 1867.*

Cancer of the Liver.—Dr. STOKES said the specimens which he had to submit afforded an example of a form of cancerous disease of the liver, which was comparatively rare. A very large number indeed of the specimens of hepatic cancer which had come before the Pathological Society were examples of the encephaloid or brain-like deposit in the structure of the organ; and it was a disease which in many cases was singularly latent, until such time as the tumour attained a certain degree of development. It was also remarkable with regard to encephaloid cancer that it was often a painless disease. In this case the principal symptoms were jaundice and intolerable and persistent pain. He did not think, except perhaps when under the influence of anodynes, this poor creature was free from hepatic pain from the beginning of her illness, seven years ago, up to the period of her death. The severe lancinating pains, which are characteristic of scirrhus, may be said to have been hardly ever absent. The jaundice was at first of the ordinary yellow colour, but for some months previous to her death it was what was vulgarly called “black jaundice.” Looking at the persistency of the jaundice, and the intolerable pain to which the patient was subjected, he came early to the diagnosis that it was a case of scirrhus cancer. At that time no physical sign existed, but two months before her death all doubt was removed, for the liver could be felt protruding from under the ribs and with an irregular surface. This irregularity of surface increased with such extraordinary rapidity as to make him doubtful as to the nature of the disease, for they all knew that encephaloid cancer ran the latter part of its course with extraordinary rapidity. The patient died with symptoms of gangrene of the feet. She had coldness of the extremities, and blackness of the feet and nails; the jaundice continuing.

The liver which he now exhibited afforded a remarkable specimen of exceedingly hard cancerous degeneration of the lower part of the organ. At the lower margin of the right lobe there was a mass, of cartilaginous hardness, imbedded in the structure of the liver. It was quite different from the ordinary encephaloid, which was of a white colour, and brain-like consistency. Similar masses, though not to the same extent, were found in the substance of the left lobe. The disease had engaged first the margin of the liver, adjacent to the gall-bladder, which it had completely obliterated. With respect to the connexion of jaundice with cancer of the liver, it seemed probable there was nothing in cancer of itself to give rise to jaundice. Numbers of cases of this disease had been detailed before the Society in which there was no jaundice; and in those in which it occurred, it seemed to be more or less accidental, and to be due to a cancerous invasion of the gall-bladder or of the hepatic duct. A small hardened tubercle existed at the top of one of the lungs. There was but little ascites. There was an enlargement of the epigastric and mammary veins, but not at all to the extent seen in other cases of hepatic disease.—*February 16, 1867.*

Ligatured Femoral Artery.—Dr. BEATTY exhibited a portion of a femoral artery which had been tied for popliteal aneurism, by Mr. Young, of Monaghan.

The patient was a man, fifty-three years of age, who, on the 27th of October last, was admitted into the Monaghan Infirmary, labouring under popliteal aneurism of a considerable size. Mr. Young adopted the plan of treatment by pressure, and persevered in it with great assiduity for the space of fifty days, from the 28th of October to the 16th of December, varying the place to which the pressure was applied, as well as the instruments by means of which it was effected. This was rendered necessary in consequence of the untoward circumstance of every spot compressed by the pad becoming inflamed and ulcerated.

On the 16th of December the tumour had increased so much, and all attempts at cure by pressure having signally failed, Mr. Young determined to cut down upon and tie the femoral artery in the usual place.

On the 22nd three drachms of thick purulent matter came from the wound.

On the 13th of January, twenty-eight days after the tying of the ligature, Mr. Young says:—"During the last eight days I have daily rolled the ligature over a pad transverse to the wound. On drawing it this day, the ligature came away suddenly, by a strong snap, as if it had been detained by granulations; its separation was not followed by a drop of blood."

On February 2nd, twenty days after the ligature came away, the man was discharged, convalescent: the tumour had nearly gone.

The specimen now exhibited by Dr. Beatty consisted of the portion of artery which had been tied, which, instead of being cut through by the ligature, as usually happens, had come away with it, about an eighth of an inch of the artery being attached to the ligature which surrounds it. This portion of the artery had separated above and below the ligature. The coats of the artery can be well traced on the ends of the detached portion. The lining membrane of the portion nearest the heart was pink in colour; that lining the distal end was of a dull yellow. Mr. Young observes that this giving way of the tied portion of the artery might be due to the evident tendency to ulceration in this man's constitution, which made it impossible to apply pressure to the integuments without causing ulceration.—*February 16, 1867.*

Malignant Disease of the Stomach.

Dr. LITTLE said the parts which he now exhibited were taken from the body of a woman who died in the Adelaide Hospital, into which she had been admitted about the end of last month. She said her age was thirty, but she looked very much older. She was emaciated to the last degree, and in such a lethargic condition that it was difficult to get from her any account of her illness. She complained of pain, which she invariably

referred to a point between the umbilicus and the pubes. Taking food caused pain in the abdomen, followed by vomiting of black matter. The bowels were confined, in fact they were never moved naturally. She stated that she had been in good health till nine months before, when she commenced to feel a lethargy creeping over her, with nausea and sickness of the stomach. At the same time she felt pain, not at this period confined to any particular part, and not increased on taking food. After six months the symptoms became suddenly aggravated. She then, for the first time, noticed that the pain was aggravated by taking food, and for the first time it began to strike her in the back. She noticed also that the vomited matter became black, and after that she rapidly got into the condition in which she was when admitted to hospital. She lived longer than he expected.

On opening the abdomen the stomach was found to be somewhat distended, and its coats thickened, the thickening increasing as it approached the pylorus, and extending into the duodenum; at the pylorus there existed a hard mass of malignant disease, the interior of which was softened and ulcerated. In the liver was found a single nodule, and also one in the folds of the peritoneum. Some of the lumbar glands were enlarged and hardened. The rest of the body was not abnormal, except that throughout it presented in an exquisite degree that blanched appearance which is seen in those who die after a protracted illness, in which the introduction of food into the system has been impossible.

The appearance of the section, the peculiar ragged character of the ulcer, the existence of a nodule in the peritoneum, the enlargement and hardening of the lumbar glands, proved that it was not a case of primary ulcer going on to induration, but one of malignant disease leading to ulceration. It was worthy of remark that the early symptom was not pain but nausea and sickness, and that the symptoms did not gradually grow worse, but became suddenly aggravated six months after the commencement of the illness. It was remarkable, also, that the point to which she referred the pain was between the umbilicus and the pubes. He lately had an opportunity of examining a man, in whose case also there could be no reasonable doubt scirrhus of the pylorus existed, yet the pain was not referred to the pylorus but to another part of the abdomen.—*February 23, 1867.*

Ulceration of the Intestines.—Dr. H. KENNEDY exhibited a specimen of ulceration of the ileum. The patient was a man, aged twenty-one, and was reported to be eight days ill. When first visited the nurse stated that he had been raving all night, and attempting to get out of bed. It was with difficulty he could be got to put out his tongue, which was red and furred in the centre. He lay on his side with his legs drawn up; his pulse was quick, and his skin hot. The eyes were slightly injected.

No spots were visible. At the second visit, the ninth day of his illness, the nurse reported that he had a similarly disturbed night, and in addition that he had passed under him, and that his bowels seemed to be too free. There were still no spots of any kind. He lay heavy and stupid, and no answer could be obtained from him. In this state he continued two days longer, when he died. The patient had been, in all, twelve days ill, of which four had been spent in the hospital. Though means were taken to check it, the diarrhea continued to the last.

On examination after death a very marked specimen of typhoid ulceration of the intestines was found. The glands also were enlarged.

Dr. Kennedy thought the case particularly worthy of notice; for during the life of the patient he was not able to arrive at any accurate diagnosis. The symptoms referable to the brain were so predominant, and the whole state of the patient such that no information could be obtained from him. The absence of eruption added to the obscurity of the case, which was also remarkable for running its course in the short period of twelve days.—*February 23, 1867.*

Cerebro-spinal Meningitis.—Dr. BARTON exhibited recent specimens illustrative of this disease, taken from the body of a man aged fifty, who was admitted into the Adelaide Hospital, February 22nd. He was totally insensible to anything said to him or going on around him; but it was not the insensibility of coma or apoplexy, inasmuch as he was not lying heavily, but was sitting up with his head erect, and rather bent back, at the same time moving his limbs in different directions; his eyes were open, but he apparently saw nothing. On being spoken to he could not make any reply, and was unable to put out his tongue. The breathing was extremely loud and stertorous; the arms were somewhat rigid, and both thumbs were bent into the palms. His hands and feet were of a dark livid colour, and very cold; there was an eruption all over his body, and the lower limbs were covered thickly with red, and slightly elevated, spots. Another remarkable appearance presented by the skin was, that all round both sides of the chest it was torn with his nails from violently scratching himself, which was afterwards explained by his wife, who stated that his illness was accompanied at first by intense itching. His pulse was rapid, and hardly to be felt. He was given some drink, but could not swallow.

The following was ascertained to be the history of the case. He was admitted on a Monday; on the Saturday morning previous, he was going to his work when he was seized with a severe rigor. He was unable to take any breakfast; he struggled to do his work, but was sent home in a cab by his fellow workmen, being unable to stand. On arriving at home he was hardly able to speak. He addressed a few words to his wife, and when his daughter came in he said a word or two, but never spoke after-

wards. His breathing was stertorous after he went into bed, and remained so. On the following morning all the symptoms increased in intensity, when Dr. Ashford, of Donnybrook, was sent for to see him. He found him in a complete state of collapse, cold, and livid, and in very much the same state which he was when admitted to the hospital. He had been a delicate man, for a considerable time suffering from chronic bronchitis. He had also some obscure cerebral symptoms, which, as far as could be ascertained, never passed beyond a tendency to sleep, and a slight loss of memory.

On the following day he was completely paralysed on the right side; the left arm and leg being in a state of rigidity. He continually kept moving the left arm about; yet kept it for a considerable time in any position it was placed in. The urine was retained, rendering necessary the introduction of the catheter. It was of a dark colour, contained albumen, but was of normal specific gravity. The breathing became more and more stertorous until he died upon Tuesday evening, being the fourth day of his illness. There was, on his admission, strabismus of both eyes to the left; there was no convulsion at any time. On raising the calvarium no fluid escaped from the cavity of the cranium, but the longitudinal sinuses were filled with dark and very thick blood. The surface of the left hemisphere was thickly covered with a quantity of greenish lymph, which was deposited *beneath* the arachnoid, the surface of which was dry and dull looking; the lymph was also deposited to some extent over the upper surface of the right hemisphere—in the fissure of Sylvius—and over the pores; there was no fluid whatever in the ventricles, or effusion of blood in any part of the brain. The cord was congested and presented a dry appearance.—*March 2, 1867.*

Foreign Body in the Pericardium; Petechia Maligna.—Patrick Cunningham, a policeman, aged twenty-two, was admitted into the Hardwicke Hospital, January 31st, under the care of Professor M'DOWEL. It was stated that he had always been a healthy man; that his habits were temperate, but his disposition sluggish. On the night of the 29th he went on duty in perfect health, and came off duty at two o'clock a.m., on Wednesday morning. An hour afterwards he complained of getting chilled, and feeling a great pain in his head and chest; he vomited a few mouthfuls of fluid, was very cold and weak, and had pains in all his limbs. He was visited by the medical officer of the police at one o'clock p.m., who prescribed for him. At about three o'clock his face began to change colour, some dark spots appearing on it, and gradually growing larger; next his legs became discoloured, and then his arms and trunk; at eleven p.m. he became much worse, and was removed to the hospital at two a.m. on Thursday, the 31st.

On admission he was cold, and complained of coldness, and great pain

in his head, chest, and extremities, and said he felt "perished." His intellect was perfectly clear, but he seemed frightened and restless, moving from side to side in his bed; the entire surface of his body was covered with dark purple blotches of various sizes; his nose and lips were perfectly black; a large purple patch occupied each cheek and forehead; the outlines of these blotches were distinct and well-defined, and exceedingly irregular, looking like so many small maps sketched out on the surface of his body with some dark purple stain. The pulse was not perceptible at the wrist; the action of the heart was so irregular and rapid that its contractions could not be counted; his tongue was dark blue; the vomiting had ceased.

He had no pain or retraction at the back of his neck; all the spinal muscles felt soft and natural. The blotches increased in size, and became confluent on the face and extremities. He died at six o'clock a.m., or twenty-seven hours after the commencement of the attack.

Autopsy.—The veins of the scalp and the sinuses of the dura mater were distended with dark blood. There was no morbid appearance in the brain or spinal cord. The lungs were in a state of intense hypostatic congestion, but crepitant throughout. The pericardium contained about an ounce of fluid, and also a small white body of cartilaginous consistence, free and loose in the cavity. On the front of the heart there were some white spots, but no sign of any adhesion of the body in any one place; the heart was large, and nearly empty; the ventricles contained a small amount of fluid blood. The liver and kidneys were congested, and the supra-renal capsules perfectly black in colour. The remaining viscera were healthy.

In twenty-eight hours after death the body had completely lost the dark, congested appearance which it had presented, and became of a vivid red colour, the eruption remaining distinct.

Professor M'Dowel observed that some regarded this disease, of which several instances had already occurred, as an example of malignant fever, and others as a modification of measles. He saw no reason, however, for adopting either view, and was disposed to regard the disease as a modification of the cholera poison. Cholera, he observed, was essentially a hemorrhæa, the serum of the blood being poured out into the gastrointestinal cavity, but in this case there was a true hemorrhæa, the blood (not its serum only) being poured out into the substance of the skin, and, just as in cholera, death was due merely to the amount of serum lost, so here the cutaneous hemorrhage was not the direct cause of death, but, like the serous hemorrhage of the cholera, was but the evidence of a morbid condition of the blood.

In this disease, which he said might be termed "petechia maligna," there was, as in cholera, profound depression of the vital power, and rapid nervous exhaustion. In both diseases the mind remaining unaffected,

and in both the principal morbid changes consisted in more or less intense congestion of internal organs, especially the lungs.

Examples of this "petechia maligna" had occurred before the outbreak of cholera last year, and the disease had reappeared on the disappearance of cholera; and hence it was possible that some modification of the poison, whether telluric or atmospheric, which developed cholera, might have produced this equally fatal disease. A dark purple eruption had been observed in some cases of cerebro-spinal arachnitis, but it differed from that in the case above detailed. In the former dark serum, effused beneath the cuticle, caused raised vesicles, as occurs in gangrene; in the latter, the blood was found effused into the cutis vera, and caused no elevation of the surface.—*March 2, 1867.*

Aneurism of the Aorta.—Dr. BANKS exhibited an example of aortic aneurism, for which he was indebted to Dr. Macnamara, Assistant-Surgeon of the 4th Dragoon Guards. The subject of it was a soldier, aged twenty-eight, a strong man, and a man of good character. From the time he entered the service, ten years ago, a clean bill of health stood against his name. On subsequent inquiry, however, it was found that for a few days before his death he complained of a tickling cough, but so slight, that he did not apply to either of the medical officers of the regiment. He was walking across the barrack yard when he fell down, and died instantaneously.

On making a *post-mortem* examination, Dr. Macnamara found the left pleural sack full of coagulated blood, nearly as much as filled a wash-hand basin; he found a large ragged rent in the pleura at its upper and inner part, caused by the bursting of an aneurism of the aorta. The tumour was directly on the front of the arch of the aorta, and projected downwards in front of the apex of the pericardium. On opening the tumour, it was seen that it communicated with the aorta by an oval aperture in the anterior wall of the vessel, close to, but not involving the origin of the innominate artery; there were a few shreds of laminated fibrin adherent to the walls of the sac; the areolar tissue of the mediastinum contained a small quantity of blood; the aorta, above and below the opening of the sac, was studded with atheroma, and showed evident traces of a former attack of inflammation; the portion of the vessel which lay at the apex of the pericardium was connected by bands of organized lymph to the walls of the cavity; there was no appearance of pericardial inflammation having extended to the remainder of the cavity. This evidence of past pericarditis, limited to a small portion of the membrane was of interest: it seemed to have been entirely due to aortic inflammation. The aortic and mitral valves were healthy, and the heart seemed free from disease. The aneurism had not engaged either the pneumogastric or laryngeal nerves on either side, nor had it compressed

either the great veins or the trachea. These points are of interest with reference to the absence of symptoms during life.

Dr. Banks stated that it was worthy of notice that in this case there was complete absence of all pain or suffering. The only deviation from the man's ordinary health was the presence of a tickling cough, but of so trivial a nature, that he never applied to the medical officers of the regiment; he merely asked the hospital sergeant to give him a cough mixture.

It is well known to all who have had much experience that thoracic aneurism is sometimes latent up to the moment when it destroys life, and the case under consideration is a remarkable illustration of this important fact.—*March 2, 1867.*

Disease of the Mitral Valves.—Dr. M'SWINEY said that a woman, fifty years of age, entered Jervis-street Hospital, stating that she had been in excellent health up to a few months previously. She complained of cough, recent cold, and weakness, and she expectorated a very considerable quantity of frothy and glairy mucus. She was found, on examination, to present merely the symptoms of capillary bronchitis. There was a mucous râle, and considerable expectoration of a fine mucous character; her pulse, however, was scarcely perceptible; and, upon examining the region of the heart, there was found an occasional interruption of its action. Her debility increased, and the stomach rejected medicine of any kind. The right chest posteriorly became slightly and comparatively dull. Notwithstanding the absence of signs of anything except engagement of the finer bronchial tubes, he could not avoid the conclusion, from a review of her general state, that there was more serious mischief than would appear from merely regarding the physical signs, and that the case would end fatally.

He suspected that there was some disease of the heart, and he examined that organ frequently, and with the utmost care, but there was never present any abnormal sound whatsoever. The only thing observed connected with the heart was this—that, whilst its action, though irregular, was distinctly heard, and its impulse powerful in the precordial region, it had not power to propel the full stream of blood, so as to give a strong impulse at the wrist. On Wednesday there was superadded sudden and great orthopnea. She was unable to lie down, could not sleep at night; the expectoration became tinged with blood, and her weakness increased. On Thursday and Friday the quantity of blood in the expectoration increased considerably, and late last evening she died suddenly.

Autopsy.—The right lung was the seat of pulmonary apoplexy. It was adherent by dense and old pleuritic adhesions, and was loaded with extravasated blood throughout. The left lung did not present any

particular feature of interest, except that its dependent parts were congested—consolidated, in fact, but not so much as to sink in water.

The heart was very large and fatty; and there was a feeling of great induration conveyed to the finger on handling it at its base. On laying open its cavities, the left auriculo-ventricular opening was found to be surrounded by a circle of morbid deposit, partly cartilaginous, partly osseous.

The stomach presented an appearance which had more than once been mistaken for the effects of an irritant poison. She had had no idiopathic vomiting. She refused to take medicines, as she complained that they made her sick; but she had no nausea, and occasionally took drinks. There was, therefore, no symptom of gastritis; and yet not only was there universal and great vascularity of the mucous membrane, but an extensive patch of it was raised up in olive-coloured bullæ by air in the submucous tissue. It was, of course, very well known that this description of appearance in the stomach resulted in many forms of death (as described by Dr. Yellowly and others), without any previous gastric inflammation.

On examining the condition of the uterus, he found attached to it a fibrous tumour, which was larger than the body of the organ itself.

This case added one more to the numerous list of instances of valvular disease of the heart going on to the production of fatal engorgement of the lungs without the presence of *bruit* in the precordial area.—*March 2, 1867.*

Disease of the Mitral Valves.—Dr. McSWINEY said, a boy, aged eleven years, was admitted into Jervis-street Hospital, complaining of palpitation, cough, with bloody expectoration, wasting, and great weakness. His pulse was 125; his face was pale; there was an extensive crepitus or muco-crepitus audible over the front of both sides of the chest. Posteriorly there was slight dulness over the upper part of the right lung; the hand placed over the cardiac region experienced the sensation of extensive “fremissement cataire;” and the ear placed to the heart recognized a systolic bruit, most audible at the apex of the organ. The case was obviously one of disease of the left auriculo-ventricular opening, admitting of regurgitation, with pneumonia of the upper and posterior part of the right lung, and probably (judging from the boy’s aspect, and the diffused fine crepitus) accompanied by scattered tubercle.

On February 24th a totally new sound suddenly became audible—viz., a loud cooing murmur. It was an interrupted, short, musical note, heard over different parts of the chest, but most distinctly over the right side. There was no other change in his symptoms, and he did not appear to be in imminent danger.

Towards the evening of that day he complained of increased distress in

breathing, but there was no marked dyspnea at the time; and the resident clinical clerk, who saw him, was not in the least apprehensive of danger. At half-past nine that night he complained of pain in the pericardial region, and desired to be placed sitting up in bed. The Sister in attendance applied a mustard blister, and left him to get some hot drink; when she returned, after a few minutes' absence, he was dead. He died quite suddenly, and without any convulsions, the only symptoms preceding death being uneasiness, and the painful sensation in the cardiac region.

Autopsy.—When the chest was opened, the serous surface of the lungs was found to be studded with miliary tubercles. The upper third of the right lung was solidified, and sank in water; the upper third of the left lung was dark-coloured and congested, but contained air, and did not sink in water. In each lung there were a few hard nodules, of the size of a hazel nut, and dark, almost black, in colour, and which sank in water. There was serum in the pericardium. Both sides of the heart were full of blood, which was partly coagulated in the ventricles, completely so in the auricles. Upon opening the left ventricle, the auriculo-ventricular aperture was found contracted, and covered with vegetations.

Fatal cases, Dr. M'Swiney said, of heart disease, had been so frequently submitted to that Society, that he should not have thought of bringing this example under their notice except for the fact that, in proceeding with the examination of the heart, the actual and immediate cause of the sudden death was ascertained to be an *ante-mortem* fibrinous clot, lodged in the left auriculo-ventricular opening, which it effectually plugged.

The formation of thrombi had been rendered familiar by cases brought forward by Dr. Hayden during last Session, as well as by others previously submitted. In this instance a thrombus had formed in the right as well as the left auricle. It was a thrombus which was distinctly of *ante-mortem* formation in both situations. It existed in the right auricle as a mass of decolourized blood, and was adherent to the interstices of the auricle. But in the left auricle there were found three fibrinous masses—one as large as a pistol bullet, yellowish-white in colour, hard and consistent, and looking almost organized. One of a globular form was imbedded in the auriculo-ventricular opening, and there were two or three others occupying the appendix of the auricle. Looking at Dr. Walsh's work on the subject, he found that he devoted a very elaborate chapter to the subject of coagulations of the blood, dividing them into three forms, according as they occurred, *ante*, *inter*, or *post-mortem*. He remarks that they usually occur in the left auricle, and says that he generally found them in the appendix. In this instance of Dr. M'Swiney's two of these decolourized fibrinous concretions were

found in the appendix of the left auricle, and the third plugged up the auriculo-ventricular opening. It was, no doubt, forming when the boy experienced increased distress; and when fully formed, death was the result.

He regretted that a more minute investigation of the state of the heart had not been made on the day of the boy's death, when the new and unusual murmur first presented itself; and he concluded that this sound was caused by the process of coagulation then going on in the heart.—*March 9, 1867.*

Rupture of one of the Aortic Valves.—Dr. HAYDEN exhibited an example of rupture of one of the segments of the aortic valve, as the consequence of shock upon the sternum. He might observe, *in limine*, that accidents of this kind, as the result of muscular effort or shock occurring in hearts not previously diseased, were exceedingly rare—so rare, that Dr. Peacock, who had searched extensively for the purpose of collecting such cases, had only been able to discover seventeen of them. The patient was a man, aged thirty, a painter's assistant. He was admitted into the Mater Misericordiæ Hospital on the 16th of last November. He had been some time in the army, and whilst engaged in the Cape of Good Hope, in defending a stronghold, probably against a raid of the natives, was thrown from a rampart, and sustained a shock in the chest; he felt stunned, but subsequently recovered perfectly. This occurred some years ago. He had been intemperate for the twelve months preceding his admission to the hospital, but never had a serious illness of any kind. Six months before admission he observed, for the first time, that he was growing thin; he likewise experienced a partial loss of appetite, and sickness of stomach. On the 12th of November, four days before his admission, he experienced what he described as a choking sensation in the neck, and some difficulty of swallowing, which continued for three days subsequently. Coincident with this, there was sickness of stomach. All these symptoms passed away, with the exception of the irritability of the stomach. The legs were slightly œdematous; the veins of the neck remarkably congested, especially on the left side; there was a loud hacking cough of a spasmodic character, without expectoration; the pulse was 108, weak, but perfectly regular, and equal on both sides.

On examination, percussion resonance, and respiratory sounds were found to be normal over the entire front of the chest; precordial dulness was likewise normal in extent and degree; posteriorly there was some slight dulness over the base of both lungs, but otherwise the condition of these organs was normal. On placing the stethoscope to the region of the heart, he discovered a double murmur over the base of the organ; of these murmurs, which were systolic and diastolic, the latter was much the louder: the diastolic murmur was not only louder relatively, but it

was a remarkable sound in itself ; it was traced up the ascending portion of the arch of the aorta, but with diminished intensity ; it was transmitted to the cervical vessels, and diffused over the front of the chest ; a murmur was also heard over the left scapula, but was single ; a double murmur was likewise heard over the apex, but less distinctly.

On the following day, the 17th of November, the man's pulse was 120 ; he was perspiring profusely ; he complained of pain in the ankles and knees, which were swollen. On the 18th he spat a little blood. On examining the chest posteriorly on this day, an increase of dulness was noticed on the right side. On the evening of the 18th he vomited a quantity of bilious matter, stained with blood. On the 19th the pulse came down to 102 ; he was perspiring freely, and complained of pain in the ankles and calves of the legs. A single systolic murmur was audible over the apex of the heart ; dulness was increased both in extent and degree on both sides of the chest posteriorly ; and over the bases of both lungs a loud muco-crepitus was heard.

On this day a remarkable phenomenon was observed in the vessels of the lower extremities. There was visible pulsation or throbbing of the anterior tibial arteries, and all their branches, extending into the feet, accompanied with a vibratory thrill. The temporal veins and the veins of the neck were also enlarged.

From the 19th to the 23rd, when the man died, there was no general examination made of the chest, owing to his extreme restlessness. During that interval he complained of undefined pains in the ankles and knees ; he was restless, slept little, had a loud spasmodic cough, with continual expectoration of blood. On the day before his death it was remarked that the temporal arteries pulsated strongly ; this had been previously remarked in the carotids. On the night of the 23rd, a few minutes before 12 o'clock, he died somewhat suddenly.

On making a *post-mortem* examination, both pleural cavities were found filled with amber-coloured fluid ; the pericardium likewise contained a pint of similar fluid. The lungs were engorged with blood, were resonant, and floated in water, with the exception of the lower lobe of the left. The heart was a little larger than in health, and somewhat globular in figure ; the right cavities were distended by dark semi-coagulated blood extending from the right ventricle into the pulmonary artery ; the right auriculo-ventricular opening had become so dilated, that the points of four fingers and the thumb could be passed with ease from one cavity to the other ; the right ventricle was slightly dilated ; the left cavities of the heart were distended by blood of the same kind, and the left ventricle was thickened, but dilated ; the mitral orifice was normal. The aortic orifice was apparently sound until an examination was made from the arterial aspect, and here it was found that the anterior and right segment of the sigmoid valve was partially detached from the root of the aorta,

its left cornu being separated from the wall of the vessel to the extent of nearly half an inch, and hanging loosely into the ventricle, in the natural position of the heart. Water poured into the aorta at once flowed into the ventricle through the patulous orifice. The valves themselves were perfectly sound, as likewise was the aorta. On carefully examining the roots of the lungs, he found a mass of bronchial glands greatly enlarged, and pressing upon the bronchi; several large glands were likewise found in the posterior mediastinum, detruding the œsophagus to the left, and pressing upon the posterior (non-cartilaginous) wall of the trachea. They were solid, dark in colour, and mottled over the surface and in the interior with white spots; in the centre of one there was matter of a hard, cheese-like character, which on pressure yielded a quantity of pus; on examination microscopically, the cheesy substance was found to be tubercular.

There could be no doubt, judging from the man's previous history, and the evidence afforded by the *post-mortem* examination, that the rupture of the aortic valve occurred at the time he was thrown from the rampart. It could be easily supposed that if, at such a moment, the chest was in the acme of expiration, the sternum being thereby brought into close contact with the pericardium, and through it with the root of the aorta, and if, during the diastole of the ventricle, and at the moment of reaction of the aorta upon its contents, the semilunar valves being closed, a severe shock were received upon the sternum, the valve segments might be thereby ruptured, or rent from their attachments.

This case was interesting in other particulars. It afforded an example of the physical signs of aortic valve disease, both obstructive and regurgitant, occurring in a case in which there was no disease of the heart or valves, the lesion being purely the result of accident. It was likewise interesting as showing that there might be a loud left scapular murmur in the absence of mitral and aortic valve disease. Much importance had been attached to this sign as diagnostic of mitral valve disease. The occurrence of difficulty of swallowing was likewise interesting. This continued for three days, and was accompanied by occasional spitting of blood and spasmodic cough. The suspicion of aneurism occurred to his mind, but he could find no positive evidence, with the above exception, to favour that suspicion. The enlarged and solidified glands that occupied the posterior mediastinum and roots of the lungs, and pressed upon the œsophagus, trachea, and bronchi, afforded a sufficient explanation of the dysphagia and spasmodic cough, which gave rise to the suspicion that aneurism existed.

With regard to the state of the lungs, Dr. Stokes, in his great work on Diseases of the Heart and Aorta, remarks that in aortic regurgitation pneumonia of a low kind was likely to occur, and be the immediate determining cause of the fatal issue. He had no doubt the sudden death

in this case was owing to the state of the lungs, hastened by the rapid effusion into the pericardium and the pleuræ.—*March 9, 1867.*

Aneurism of the Aorta and of the Axillary and Popliteal Arteries.—Mr. PORTER presented to the Society the lungs, heart, aorta, right femoral, and left axillary arteries, taken from a patient, aged sixty-eight years, who died in the Meath Hospital on last Wednesday morning. He had originally admitted this man so far back as April, 1865. He was then labouring under popliteal aneurism at the right side, which was cured by digital pressure in twenty-six hours and three quarters. He was again admitted in last July, complaining of excruciating pain in his left arm; and, on examination, there was discovered an axillary aneurism, situated below the left clavicle; an attempt was made to cure this by digital pressure on the subclavian artery, but the pain could not be endured. Tying the subclavian artery was contemplated, but in consequence of his colleagues, Drs. Stokes and Hudson, being of opinion that the aorta was greatly diseased, the idea was abandoned. The immediate cause of death was pericarditis with pleuritis.

It was found, on making a *post-mortem* examination, that not only was there an immense dilatation of the arch of the aorta at its origin, but that it was otherwise diseased, there being atheromatous deposit to a great extent. Another aneurism was discovered in the descending portion of the aorta. On examining the axillary tumour, it was found filled with layers of fibrin, and intimately connected with the brachial plexus. The femoral artery was obliterated down to the remains of the popliteal tumour, which was about the size of a small nut, very hard, and filled with fibrin. Both layers of the pericardium were covered thickly with coagulated lymph.—*March 16, 1867.*

Malignant Purpuric Exanthem.

Dr. M'SWINEY, communicated the following case:—On Wednesday (February 20) a woman presented herself at Jervis-street Hospital, seeking medical aid for her female child, aged six years, who she stated had been in perfect health the day before, had eaten heartily of a meat dinner, and gone to bed perfectly well, but became feverish towards morning. She was hot, restless, and sick. At eight o'clock she got a cup of tea, which was rejected, and during a period of two or three hours afterwards she got several drinks, all of which she vomited. At the same time she complained of being unusually chilly, but had no convulsion, pain in the head, or other alarming symptom. At eleven o'clock, the mother noticing that there was a rash appearing on the upper part of the body, brought her to the hospital. When he saw her, at one o'clock, she had the expression of one about to die very soon. She was collapsed, cold, pulseless at the wrist, with feeble pulsation of the heart. Her face was marked with a number of purplish spots, petechiæ in fact. The body was covered

extensively, as were also the extremities, with irregular patches of ecchymosis, some of them very large, and of a deep bluish, livid hue. Extending over a great portion of the gluteal regions were other small round petechiæ, all unattended by any elevation of the cuticle. At a quarter past three o'clock he visited the hospital again, in company with Dr. Lyons, to whom he was anxious to show the case, and on his arrival the child was dead—that is to say, four hours after the petechial eruption made its appearance, seven after the occurrence of vomiting, and at the outside ten or twelve hours from the time at which the child was first noticed to be unwell, if the statement of the mother on this point was to be believed. The order of symptoms was, vomiting, first; chill, second; rash, third. It was remarkable that there was no convulsion until a few moments before death, when the child had a rigor, followed by a convulsion. It was also worthy of remark that the animal heat returned before death. Reaction set in and heat returned before death, and continued very well marked for some considerable time after death, suggesting a resemblance to those cases recorded where there was a great exaltation of temperature after death, as in cholera and yellow fever. A *post-mortem* examination was made of the body, but the results were for the most part of a negative character. The organs of the thorax did not in the least degree differ from their normal state in health. The same might be said of the liver, stomach, and upper part of the intestinal tract. He had brought with him the cecum, with two or three inches of the ileum and colon, which showed numerous tranverse bands of livid and congested mucous membrane, the congestion and turgescence being most marked at the valve, which had the appearance of being about to salivate. There was a ring of pea green discolouration around the entire of the abdominal parietes, making the early commencement of putrefaction. There was no urine in the bladder. The heart was very large, and all the cavities were full of dark blood, in a semi-coagulated state. There was not the slightest appearance of any meningeal lesion either in the brain or spinal cord, with the exception of a few dark spots like sanguineous effusions under the arachnoid. There was nothing in the appearance of the spinal cord of any importance, except a slight degree of congestion. He had brought away with him a cluster of enlarged mesenteric glands, which contained a considerable amount of cheesy-looking matter, a condition of very frequent occurrence in the children of the poor, and which could hardly be supposed to have any connexion with the disease of which the patient died.

He thought that a disease which proved fatal with such fearful rapidity, and where so little abnormal could be found after a careful *post-mortem* examination, must, of necessity, be considered a blood disease; and he had deemed it well that some portion of the blood should be examined. He had not, however, found it possible to get a proper chemical

examination of it in the short time that had elapsed since the child's death ; but a microscopic examination was made, the results of which he thought were important. Dr. Crynan wrote to him as follows:—"I have just made a most careful microscopic examination of the specimen of blood, and find that the *white* corpuscles are at least three times more numerous than in health. Free fatty molecules are present in considerable numbers. The red corpuscles present all their normal characters."

Dr. M'Swiney observed that when he saw the eruptions on the body of this child he was at once strongly reminded of *purpura*. Cholera occurred to the mind of one gentleman who saw the case from the deep discolouration of the skin, but there was no pinched and shrunken face—no choleraic vomiting or diarrhea—no painful muscular spasms—and the discolouration of the skin was totally different. From measles the distinction was easily made. There was no catarrh, which usually preceded measles, nor any elevation of the surface. The hand, passed carefully over the surface of the skin, failed to detect the smallest elevation, and it was totally different from what is called "black measles." The woman, however, declared that the child had had the measles, which set this question to rest. Finally, he would remark that this was the disease to which Dr. Lyons had called attention some months ago, and of which some twenty or thirty fatal cases had occurred, and which in the first hurry of the moment he designated the "black death." He thought this name was not appropriate. The black death of the middle ages was a different disease. It was the "plague," in fact. The body of the patient was covered with boils, imposthumes buboes ; and there was hemorrhage and spitting of blood. He would venture to suggest that a designation, so non-descriptive, should be abandoned. It was more difficult to suggest what the disease should be called ; but, considering that it was most like purpura, and extremely fatal, he would propose to call it *malignant purpura* or "Malignant Purpura Exanthem."—*March 23, 1867.*

Pericarditis after Typhus.—Dr. LYONS made the following communication to the Society:—Towards the close of the month of March, a case of interest terminated at the Hardwicke Hospital, under the care of Dr. Lyons. The patient was a lad aged seventeen years ; and had been some weeks in hospital at the time of his death. He exhibited all the characteristic symptoms of typhus of a low type, with depressed circulation and enfeebled heart. Soon after his admission, Dr. Lyons observed the development of a very extensive diphtheritic exudation on the throat, which threatened at one time to be a fatal complication. It was not so, however ; under watchful management this symptom was overcome, but only after much trouble. For seven days or more the exudation was appearing and disappearing on the throat, notwithstanding the various local and general modes of treatment used for it. Near the end of the fourth week

the patient was making a fair recovery, and most of the serious symptoms had disappeared, when there was observed a peculiar irritability of the pulse, which rose to 120, and also a distinct increase of the cardiac action. Dr. Lyons did not readily incline to the opinion that anything of an inflammatory nature was likely to attack the heart at this advanced stage of typhus; but a few leeches were applied over the region of the heart, with the result of giving some relief to the patient. In a few days the symptoms became gradually more aggravated, and the lad died on the twenty-seventh day of his illness.

Autopsy.—The entire of the pericardium and the surface of the heart were covered with lymph. There was effusion of fluid to the amount of eight or nine ounces into the pericardium; and it was concluded that the sudden occurrence of this effusion was the cause of, and sufficiently accounted for the rapidly fatal issue of the case.

Dr. Lyons remarked that, in his experience, this was the second case of pericarditis proving the immediate cause of a fatal termination in typhus; and, on looking over the standard works on the subject, he found that it was a very unusual complication. In the first case which he saw, the patient died on the twenty-fifth day of his illness, with characteristic symptoms; and, although he could not give proof similar to that in the present case, viz., by the result of a *post-mortem* examination, that the proximate cause of death was pericarditis, yet no doubt existed in his mind that such was the case. The friction sound was exceedingly well marked, and it was noticed that this person had shown extreme debility in the circulation, extremely feeble impulse, and debility of the cardiac sounds during the second week of his illness. The same symptoms existed in the case above noted; and it must be considered remarkable, where the heart was so debilitated in a disease like typhus, which, as the researches of numerous and well-qualified observers showed, produced so remarkable an effect in weakening the cardiac muscles—that at the termination of such a case the heart and its investing membrane should be enabled to “take on” inflammatory action of so high a degree as this. Dr. Lyons was also of opinion that, looked at from another point of view, this case was interesting; the exudation of lymph on the pericardium might be connected with the exudation of lymph in the throat, as a characteristic feature in this particular case.—*March 30, 1867.*

Aneurism of the Aorta.—Dr. BENNETT exhibited a specimen of thoracic aneurism springing from the aorta, at its origin from the heart.

He said the case was one of much interest on account of the remarkable character and position of the tumour, and also on account of the fact that the nature of the disease had not been recognized during the life of the patient, although it had been the subject of the most careful and repeated examinations.

The man from whom the specimen was taken was a coal-porter, aged about forty years; he had lived and worked hard. On February 23rd, during the severe weather, he applied for relief at Sir Patrick Dun's Hospital. He was then suffering from violent cough and palpitation of the heart; his legs were œdematous, and there was a good deal of fluid in the abdomen. There were bronchial râles all over the chest; the area of pericardial dulness was much increased, and the heart's action was very violent and irregular. A loud murmur could be heard all over the cardiac region, of maximum intensity at the centre of the sternum; this murmur accompanied the first sound, and was prolonged along the aorta and great vessels; it could be traced as far as the pelvis. There was great difficulty in deciding whether the second sound was normal, and whether there existed any mitral murmur or not, in consequence of the great loudness of the first murmur, and the irregularity of the heart's action.

The case was admitted into hospital under the care of Dr. A. Smith. On admission the urine was examined, and found to contain a large quantity of albumen. It was noticed on the day following his admission that he complained of tenderness over the centre of the sternum, and that the impulse of the heart was of maximum intensity at this point—facts that, had they been attended to sufficiently, might have suggested the idea of the presence of an aneurism—the tenderness, however, ceased to exist after the first day. The man rapidly improved in health under the treatment adopted, and the heart's action became much quieter, and ceased to be irregular.

This improvement continued up to the end of the second week in March, the œdema of the limbs, &c., almost disappearing; about this time the man got up, and sat before the fire in the ward with only a blanket thrown over him; he got a fresh attack of bronchitis, and all his former troubles returned: he became unable to rest in any position but sitting up; the limbs became greatly distended, and were punctured to relieve the tension; a great quantity of serum escaped, with some relief to the patient, but he finally sank on April 2nd.

The *post-mortem* examination was made the following day: on raising the sternum from below upwards, the aneurism was opened into. The tumour was adherent to and had eroded the sternum, so that the bone could not be raised without opening into it; it lay directly over the base of the heart, and had pushed it backwards in the chest; the pericardium was found to be firmly adherent to the heart, the adhesions being of old standing; the membrane could be traced on the sides of the aneurism, and was adherent to the sternum where the tumour pressed against it. The sac of the aneurism seemed to be formed almost entirely by the adherent pericardium. In the cavity of the aneurism was seen a mass of laminated fibrin, which

occupied the portion of the tumour which lay below the aortic orifice. The orifice of the aorta opened directly into the sac; but the aortic valves were perfectly healthy, and were competent to close the orifice completely. Removing the coagulum from the sac, its posterior wall was found to be formed by the walls of the right auricle and ventricle; and the tumour projected into both of these cavities, compressing the tricuspid opening. The tumour descended downwards in front of the right ventricle to within two fingers' breadth of the diaphragm; the fibrous tissue of the aorta could be traced from the vessel above the tumour some way on its wall, but not over the entire tumour; the examination of the walls of the tumour suggested that it had obtained its great size, not by dilatation of the sinus of Valsalva, but by rupture of the sinus into an adherent pericardium. The coronary artery of the right side was occluded at its origin, and the heart was supplied with blood only by the left vessel. The position of this tumour was in accordance with the rule laid down by Professor R. W. Smith,^a that, where an aneurismal tumour springs from the commencement of the ascending portion of the arch of the aorta, its tendency is to project downwards, in consequence of the pressure of the regurgitant stream of blood in the aorta. The unusual position of the tumour, and the peculiarity of the murmur (always an exceptional occurrence in thoracic aneurisms), explain in some degree the fact of its having escaped detection. The left ventricle was hypertrophied, but both its orifices were normal; the kidneys were large and granular; the back of the sternum presented a partly eroded surface; and the cartilages of the ribs were seen standing out, resisting absorption in the same way as the intervertebral discs do when involved in an aneurism.—*April 6, 1867.*

Tubercular Deposit in the Lungs, &c.—Dr. LYONS said, the morbid specimens which he now exhibited were taken from the body of a female, fifty-three years of age, admitted to the Whitworth Hospital some two months since. Her history was shortly this:—She was unmarried; her occupation was that of a hawker of fowl. She was very much addicted to intemperate habits; she was in the habit of hawking fowl from Dublin to Kingstown; and, when she sold a pair of fowl, she stopped at the first public house she met to take a drink; and, on an average—to give her own summary of her drinking habits—she drank two shillings' worth of spirits in the day. She described herself as being fat, stout, and strong, until two or three weeks before admission into hospital. She then began to suffer from severe vomiting, which continued for a fortnight or three weeks, with little or no intermission, and she then suddenly became

^a "Contributions to the Pathological Anatomy of the Heart and Great Vessels," "Dublin Medical Journal," vol. ix.

jaundiced. When the jaundice was fully developed, all gastric irritation seemed to have ceased, and at no subsequent period was there any evidence of its return during her stay in the hospital. She made little or no complaint of local uneasiness. The evacuations *per anum* were solid, and showed no evidence of the presence of bile. There was bile in the urine, in the serum which came from some blisters which were produced, in the sputa, and, in fact, in every secretion, save those from the alimentary canal, bile was found in abundance.

He was disposed at first, looking at the history of the case, to regard it as one of those instances of disease brought on by excessive drinking—that a gastric irritation was set up, followed by subacute inflammation of the liver, and jaundice. He did not think it was an incurable case; gastroduodenitis, the result of excessive drinking, being often amenable to treatment, and resulting in a complete cure.

As the case progressed, however, it became clear that some further biliary obstruction existed. Every effort to procure a proper secretion of the bile was made without any effect. There was no tenderness at any time in the hepatic region; neither was there any tendency to gastric irritation, or any indication of a tumour causing obstruction. She lingered for some time with little change in the general features of the case, except that she became emaciated a good deal. She also became liable to a troublesome cough, with a certain amount of bronchial secretion tinged with bile. She slowly lost strength, and, without any new symptom, without any indication of biliary reaction on the cerebral system, or any appearance of a comatose condition, or of the bile acting as a poison in the blood, she died three days ago.

He made a very careful *post-mortem* examination, and found that the lungs presented a large amount of deposit, as to the exact nature of which he was at first a little doubtful. The liver was of a deep dark green hue; the gall bladder was enormously distended with bile. He then proceeded to examine the duodenum, to see where the obstruction was. It was found to be a mechanical one, and consisted of a mass of deposit, which he believed to be in the mesenteric glands, lying across the duodenum. The matter was excessively hard, firm, and resistant; it had plugged up completely the ductus communis choledocus, and prevented the flow of bile into the duodenum. The left kidney was not sensibly altered beyond being deeply coloured with bile. The right presented a remarkable change, being greatly diminished in size. At its superior extremity he found a mass of matter embedded in it, and several cysts full of soft, pulpy matter of a kind he was not very familiar with. It presented most of the elements of tubercular matter; but there was a great amount of fibroid structure through it, giving the mass the appearance of a fibroid tumour with tubercular matter deposited in it. Most probably, however, the tubercular matter was deposited in the glands, which became matted.

together so as to form a tumour. He was now disposed to regard the whole of the deposit in the lungs as also of a tubercular character.—*April 6, 1867.*

Contraction of the Right and Left Openings of the Heart.—Dr. LITTLE exhibited a heart, taken from the body of a woman, aged 23, who was admitted into the Adelaide Hospital ten days before her death, suffering from an affection of the chest, under which, he was told, she had laboured during the entire winter; she had, however, been able to attend in a millinery establishment until two or three days before her admission. When she came into hospital, she was breathless to the degree of orthopnea; her face was rather livid; she had a frequent cough; and expectorated small pellets of sputum, such as are seen in some forms of phthisis; her feet and legs were somewhat œdematous; she had a teasing diarrhea, and the urine was scanty and albuminous; all over the chest there was rather undue resonance on percussion, and a very fine bubbling râle was to be heard; the difficulty of breathing made a satisfactory examination of the heart difficult, but no murmur was noticed. She very soon became drowsy and confused, and died on the tenth day after admission.

On opening the thorax they found the lungs universally emphysematous; they were very much engorged with blood, and in one part there was a nodule of pulmonary apoplexy. On opening the heart, some curious features presented themselves. The right auricle was seen to be considerably dilated, and very much hypertrophied; the right auriculo-ventricular opening was so small, that it would barely admit the tip of the index finger; in the right ventricle there was no appearance worthy of notice. When the left side of the heart was examined, the mitral orifice was also found to be very much contracted, hardly so much as the right auriculo-ventricular opening, but still very considerably; the aortic valves were found to be slightly incompetent, and were studded with a few vegetations; on the surface of the right auricle there was a slight roughness, the only indication of there ever having been any inflammatory action, unless the slight warty appearance on the valves of the aorta might be attributed to that cause. The occurrence of very great narrowing of both the tricuspid and mitral openings was a rare condition; and he was anxious, therefore, to learn the history of the young woman, especially as he believed the change must have taken place at a long distant period, from the intimate fusion of the segments of the valves, and the absence of evidence of inflammatory action.

It appeared that the young woman had enjoyed good health till thirteen years old, when she had a catamenial discharge, and soon afterwards her breathing was noticed to be short; she suffered from palpitation on the least exertion, and began to have cough. From that time to the date

of her death she was always breathless, suffering from palpitation on making any exertion; had a good deal of cough in winter, and a slight cough in summer. Within the last five years, having been previously rather thin, she had fallen greatly into flesh, and for the last year especially so. Her sister stated that her feeling of depression and languor became so great latterly, that she was obliged to take wine. There was one appearance which his friend Dr. Head noticed the moment he saw her: viz., a peculiar clubbed appearance of the fingers, a condition often noticed in connexion with an imperfect circulation.—*April 13, 1867.*

Pleuritis.—Dr. HAYDEN said, the specimens he now exhibited were of an ordinary kind, but suggestive of very useful reflections. The viscera upon the table were taken from the body of a woman, 28 years of age, who was admitted into the Mater Misericordiæ Hospital on the evening of the 23rd of April. A cursory examination satisfied him that she was suffering from effusion into the left pleural cavity. About a fortnight ago, during one of the stormy evenings recently experienced, when going home from her place of business, she suffered a chill. The next morning she complained of acute pain in the left side. She neglected it—nothing being done beyond the application of a sinapism, which was so far misdirected that it was applied to the wrong side of the chest. When we saw her, on the evening of the 23rd, the left side of the thorax was dull; the heart pulsated beneath the right nipple; the dyspnoea was extreme; the patient suffered from repeated attacks of partial syncope; the pulse was exceedingly quick, and the respiration laboured. She seemed, under treatment, to improve somewhat. Yesterday morning, when he saw her for the last time alive, her tongue was brown; she was suffering from febrile symptoms; the embarrassment of respiration was relieved, the pulse of better volume, and she was generally improved. She had an attack of diarrhea in the course of the day. At six o'clock last evening she insisted on getting out of bed, contrary to the remonstrance of the nurse and Sister in attendance—she would not use the bedpan; and, when in the act of getting up, she fell back, and died instantly.

On examining the chest, he found the pleural cavity distended by amber-coloured serum, in quantity amounting to several quarts; the heart was displaced to the right side; the left lung was reduced to small dimensions, compressed, dull, and encased in an envelope of false membrane, of enormous thickness. The costal pleura, coated with a layer of false membrane of the thickness of sole leather, was exhibited, detached from the chest wall.

The right lung had acquired in some measure a compensatory volume; it was considerably enlarged, and in some places emphysematous. The pericardium and the heart were normal, with the single exception that the latter presented more than the usual amount of superficial fat. In

the apex of the right lung was an old cicatrix, manifestly a healed tubercular cavity. He had been informed by her friends that when a child she manifested symptoms of pulmonary phthisis.

The case was interesting mainly in this, that it should suggest the extreme caution to be exercised in movements of the body in cases of copious effusion into the chest. Paracentesis had been contemplated, but, owing to the improvement in the state of the patient, was postponed. —*April 27, 1867.*

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.^a
 TWENTY-NINTH ANNUAL SESSION.

DR. SAWYER, President.

Case of Early Abortion—Hemorrhage—Retention of the Placenta, and Removal.

DR. JOHN A. BYRNE said:—On the morning of the 29th November last I was sent for to see Mrs. F. She had been attacked with hemorrhage whilst in bed, and without any precursory symptom. It had been tolerably smart before my arrival, but had ceased on the application of cold to the vulva. She informed me that she was pregnant, in her own opinion, from the 14th July preceding, and that she had enjoyed excellent health from the commencement until about a fortnight previously, when she suffered a good deal from diarrhea, then prevalent, which left her in rather a weak condition; she had not suffered from morning sickness.

On examination, I found that there was not much hemorrhage going on; the vagina was dilated, the uterus enlarged, and pressing down into the vagina; but the os uteri was not dilated, nor was the ovum to be felt.

Her previous history was this:—She was the mother of two children, and had aborted twice before at three months of gestation. Her first miscarriage took place eighteen months before this, and she attributed it to a mild attack of fever; it was a twin abortion; the hemorrhage accompanying it was very severe, and she was almost moribund before I arrived at her house. She recovered quickly, again became pregnant, aborted a second time, again became pregnant in July, and was attacked by those symptoms, menacing a third miscarriage.

I enjoined absolute rest, ordered moderate cold to be locally applied, and gave her the gallic acid in mixture, with a small quantity of opium.

The hemorrhage ceased, and she went on very well for seventy-two hours, when she was again attacked by pains and hemorrhage, and on my arrival in a very short time after, I found that a pouch of membranes was protruding through the os uteri, they contained no ovum, but a

^a These Reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

quantity of dark-coloured amniotic fluid ; this very soon came away, and was followed by the expulsion of a fetus, which appeared to be of about three months. It was flattened, shrivelled, and dark, and had evidently been some time dead in utero.

I waited some time, expecting the placenta to follow, but it did not, but in its stead a very smart hemorrhage came on. I passed my finger along the small funis to remove the placenta, but the os uteri was firmly closed. I then used some pressure over the uterus, administered ergot, and applied cold to the vulva ; then made a very gentle traction on the funis, but all was without effect ; the hemorrhage still continued, and in large quantity. I then endeavoured to dilate the os uteri with one finger, and made more traction, but without success ; the bleeding continued, and to such an extent as to produce an effect upon the pulse, and symptoms of syncope were setting in. I determined now to remove the placenta, and passed the fore finger of the right hand through the os uteri, which gave some resistance, and supposing that I had nought to do but hook away a detached placenta lying loose in the uterine cavity, I was somewhat surprised to find that the placenta was so intimately attached to the fundus of the uterus that I had some difficulty in detaching it, being obliged to introduce two fingers, and remove it piecemeal. The placental mass appeared to be intimately soldered to the uterus by its entire surface, and although I drew down the uterus low in the vagina, by pressing with my left hand, and freely used the two fingers of my right, I yet found the greatest difficulty in detaching it. During the time of its removal, which occupied about five minutes, there was a good deal of hemorrhage, which ceased immediately afterwards, and there was no further trouble. I gave her an opiate, suitable stimulants, and she recovered without a single bad symptom.

It may be worth remarking, that on the previous occasions of her aborting the placenta came away without any delay, and without any hemorrhage.

Dr. Byrne exhibited the fetus and placenta, and also some plastic casts prepared by M. Auzou, of Paris, illustrating the size of the ovum and of the uterus at the period of pregnancy in which this miscarriage took place, and which showed the difficulty of introducing the fingers at this early period ; and said that the case presented some points of practical interest, upon which, with the permission of the society, he would make a few remarks.

In pregnancy, at the full period, morbid adhesion of the placenta is not a circumstance which very frequently complicates labour ; however, it occasionally happens, that from some change occurring in the mode of growth of the placenta to the uterine walls, or from placentitis, the result of accident or disease, that the union of it to the uterus becomes so dense that manual detachment and extraction become necessary,

either in consequence of sudden and severe hemorrhage, or from the naturally to be dreaded complications to which a retained placenta may give rise; hence the treatment of such cases has received a good deal of attention from obstetrical authors.

In Collins' work, which embraces the large number of 16,414 cases, there is only the small number of ten cases of what might fairly come under this term.

In Drs. M'Clintock and Hardy's collection of 6,634, there only occurred eleven of morbid adhesion; and in Drs. Sinclair and Johnston's report of 13,748 cases, during Dr. Shekleton's mastership of the Lying-in Hospital, there occurred twenty-seven.

This gives a total of about 1 in 766. Dr. Churchill has collected a very large number, viz., 329,670, and out of this morbid placental adhesion occurred in 68, or about 1 in 4,844.

These are cases, however, in which the pregnancy had advanced to its full period, or nearly so, and in which, of course, the placenta had undergone a corresponding proportional development, and where its remaining in utero would be attended with immediate danger to the life of the patient; and the rule of practice laid down is, that it must be removed by introducing the hand into the uterus, and extracting it in the most perfect manner possible.

In cases, however, such as that which I have read to the Society, viz., where the pregnancy is not far advanced, and where the uterus is small, the line of treatment has not been so clearly laid down by authors, and much perplexity and doubt exist as to the proper practice to adopt where the ovum has come away, and the placenta or secundines remain behind. In these cases either hemorrhage may or may not continue after the expulsion of the ovum; in the majority the hemorrhage generally ceases, and does not return; but in some, as in the instance related, the hemorrhage still goes on, notwithstanding the employment of all means used to suppress it.

In all cases where the ovum can be felt in the os uteri, and where it can be removed in its integrity, and without violence, the best practice is to remove it gently by one or two fingers—all contrivances in the way of instruments are to be avoided—the hemorrhage then generally ceases. In some cases, however, it is not possible to remove the ovum, and in others it is within the uterus and cannot be felt; under those circumstances, the tampon is the proper means to adopt, and no time should be lost, but the vagina must be plugged at once; the ovum, generally, comes away after the removal of the plug, and there is no further trouble; we may, however, be obliged to repeat the tampon.

In the management of the other classes of cases—that is, firstly—where the hemorrhage goes on after the escape of the ovum, on account of

some part of its coverings, or of the placenta, being left behind ; secondly—where no hemorrhage is going on, but the placenta or membranes remain behind, much variety of opinion has prevailed as to the practice proper to be adopted, and it is almost impossible to arrive at a correct or satisfactory conclusion as to what should be done in those cases. Some recommend active interference, and extraction, either manual or instrumental, on account of the dread which they entertain of the effects produced by retention of the membranes ; others do not attach any importance to this point.

As a proof of this, I shall quote some of the most distinguished authorities upon those subjects.

Denman says :—

“But whatever other pain or trouble may attend, the hemorrhage is the only immediately alarming symptom ; I say immediately, because every practitioner must be convinced, that sometimes abortions either occasion local diseases, or the time of abortion is an era, from which we may date the commencement of some dangerous diseases of the uterus, or its appendages. It has also been imagined, that the safety of the patient very much depended upon the complete and speedy expulsion of the placenta ; and when it was retained, very active deobstruent medicines, as they were called, were supposed to be necessary, and strenuously given for the purpose of expelling it, lest it should become putrid, and some of the putrefied particles be absorbed into the constitution. I believe the whole of this supposition is groundless, having seen many instances of its being expelled in a very putrid state at different periods of pregnancy, when the patient was in perfect health ; and if she had any disease, the putridity of the placenta clearly seemed the consequence, not the cause, of the disease. At all events, much less mischief may be expected from the retention of a putrid placenta at this time, than from attempts to force it away by medicines usually given for that purpose, or by manual assistance.”

Dr. Wainwright, of Liverpool, recommended, many years ago, the introduction of the fingers, but his recommendation does not seem to have found much favour.

Ramsbotham, in his work on Midwifery, page 683, inculcates the necessity of removing it, if possible, but says that at that period of pregnancy it is extremely difficult, in fact, impossible, to introduce the hand, and he places reliance upon the use of the tampon and ergot.

“Thus, then, it will be perceived, that in abortions attended with hemorrhage, our sole anxiety is for the well-being of the mother ; and as the chief danger arises from the discharge, we must endeavour to restrain

it—first, by the measures ordinarily had recourse to; if they fail, we remove the ovum by the introduction of two or more fingers within the os uteri, provided that be practicable; should this, however, be impossible, we plug the vagina, or exhibit the ergot of rye, or use both means at the same time.

“It may happen, however, that the ovum may break,—that the fœtus may be expelled, and the placenta retained for days, weeks, and perhaps months. It is remarked, indeed, that in general the placenta of a young embryo is retained much longer than one belonging to a perfect fœtus; and so long as there is any portion of that mass in utero, so long the woman is not safe from flooding, and so long she is liable, also, to other dangers, more remote, but by no means despicable. It is, therefore, highly desirable, that when the embryo has passed, the placenta should be removed as speedily as possible; but this cannot be affected by the agency of the funis, for the cord is so tender that the least straining will cause it to break. We shall be equally unsuccessful in any attempts we may make to get it away by the introduction of the hand, for the uterine cavity is not large enough to admit the passage of the hand within it. Unless, then, it be lying partly in the vagina, so that we can embrace it between two fingers and draw it away, we must rely on those means best calculated to prevent hemorrhage, including the plug, and give the ergot of rye, in the hope of exciting the uterus to such efficient action as will eventually throw it off.”

Burns, in his work, recommends manual removal only in cases where the hemorrhage is very profuse, and even then only when other treatment has disappointed us:—

“If the membranes have given way, and the fœtus be still retained, we may, by insinuating a finger within the uterus, cautiously, hook it out; or, in many cases it will be found, partly, expelled through the os uteri, and may easily be helped away. But the most tedious and troublesome case, generally, is that in which the fœtus has been expelled, but the secundines are still retained, under one of two circumstances; namely, either they are only partially detached, and still adherent to a certain extent, or there is a circular and spasmodic contraction of the uterine fibres around a portion of them, a state which may occur even before the fœtus itself be expelled. Now, we never can consider the patient as secure from hemorrhage, until these be thrown off, and therefore, she must be carefully watched, especially when gestation is considerably advanced. In a great majority of instances, the uterus within a few hours, contracts and expels them. But in some cases, the hemorrhage does become profuse, and there is little disposition to throw them off. By stuffing the vagina, we shall often find, that the dis-

charge is safely stopped, and the womb excited to act, in a short time; or, a warm saline clyster is to be given, of such strength as shall briskly stimulate the rectum, and excite sympathetically the uterus, or we may try the ergot, which sometimes has been of service, but, in other instances, has failed, and even produced distressing sickness. If we be disappointed, or the symptoms urgent, the finger must be introduced within the uterus, and the remains of the ovum slowly detached by very gentle motion. But we must be very careful not to endeavour to pull away the secundines, until they be fully loosened, for we thus leave part behind, which sometimes gives a great deal of trouble; and further, if we rashly endeavour to extract, we irritate the uterus, and are apt to excite inflammation, or a train of hysterical, and sometimes fatal symptoms. It is these two circumstances, which make me cautious in advising manual assistance; and, fortunately, the proportion of cases requiring it, is not great in abortion at an early period."

Mr. Dease, an Irish accoucheur and surgeon of eminence, in his obstetrical observations, regards the retention of the placenta as a matter to be avoided, on account of its dangerous consequences.

M. Velpeau, in his *Traité complet de l'art des Accouchemens*, says:—

"Le délivre ayant à peine changé de rapports lui-même avec la cavité qui le renferme, ne peut en franchir que difficilement l'orifice pour passer dans le vagin. D'un autre côté, le cordon est si faible qu'on ne peut exercer sur lui que de très légères tractions. Cependant la rétention du placenta n'est pas beaucoup moins fâcheuse après l'avortement qu'après accouchement à terme."

Velpeau disapproves of any instrumental interference, and contents himself with using his fingers; and although he characterizes as unpleasant and dangerous the consequences of leaving the placenta in the uterus, yet he says that in some cases the placenta has been known to remain a very long time in the uterus without putrefaction. He attributes the non-putrefaction to the circumstance of the neck of the uterus closing quickly about it. He says:—

"Je doute aussi que M. Dugès y ait sérieusement songé quand il a proposé pour le même but et pour entraîner des restes de délivre quelconque, son *anse de fil d'archal recourbée* en crochet ou en raclette. Agissant en aveugle, si la main ne peut pas les accompagner, de tels moyens seraient inutiles ou dangereux. Lorsque les doigts peuvent entrer dans l'utérus, au contraire, ils rendent superflus toute espèce de tige étrangère.

"Toutes ces précautions sont parfois inutiles. Si le col s'est renfermé promptement après la sortie du fœtus, le placenta peut rester un temps

assez long dans l'utérus sans se putréfier. On a vu des femmes l'oublier en quelque sorte, ne le rendre qu'au bout d'un ou de deux ans, être fécondées de nouveau, aller jusqu'à terme, et se débarrasser simultanément et de l'ancien et du nouveau délivre. C'est alors aussi qu'on a le plus souvent observé la résorption, réelle ou apparente, du délivre; c'est alors du moins, et seulement alors que j'ai cru l'avoir reconstruite jusqu'ici."

He concurs with other writers in regarding retention of the membranes as a source of great danger, and to be avoided.

M. Cazeaux, explaining why, at the three and four months, the placenta is frequently retained, says:—

"Mais il n'en est pas du tout de même dans le troisième et le quatrième mois. A cette époque, en effet, le placenta, déjà volumineux, a contracté des adhérences très nombreuses et très intimes avec la matrice; celle-ci n'a pas encore acquis toute la contractilité de tissu dont elle jouit au terme de la grossesse. Aussi les contractions prématurées qui se manifestent, assez énergiques pour briser l'œuf, ne le sont point assez pour détruire les adhérences utéro-placentaires."

And again, in detailing the treatment, he says:—

"Lorsque le placenta n'est pas complètement décollé, et que les tractions n'achèvent pas son décollement, on peut, si la dilatation du col le permet, introduire un doigt dans la cavité utérine, et chercher à le faire glisser entre la face externe du placenta et la face interne de l'utérus. Enfin, si l'on ne pouvait pas y parvenir, il faudrait appliquer le tampon et administrer le seigle ergoté. Il est bien rare que les deux moyens réunis n'arrêtent pas la perte et ne provoquent des contractions suffisantes pour expulser le délivre."

In writing of the danger of retained placenta he says:—

"Les choses ne se passent pas toujours aussi bien, et la rétention du délivre peut devenir la cause des accidents les plus graves. Quelquefois, en effet, le placenta, resté dans la cavité utérine, après avoir été décollé en partie ou en totalité, ne tarde pas à se décomposer comme s'il était exposé à l'air; les lochies deviennent fétides; les parois utérines, en contact avec des matières en putréfaction, en absorbent une partie; la fièvre se déclare, et avec elle tous les accidents de l'empoisonnement putride."

Let us now endeavour to find out the treatment recommended to be adopted by some of the most recent obstetrical authorities and writers in this country and England.

Dr. Churchill, in his work on Midwifery, 3rd edition, page 167, says:—

“If the fœtus alone be expelled, we may wait awhile (if no flooding occurs) to see if the uterine efforts will detach the secundines; if not, perhaps we may be able to reach the lower portion of them with the finger, and gradually withdraw them; if this fail, we may frequently succeed with the ergot of rye.

“But there are many cases in which none of these plans will succeed. Are we then to leave the case to nature? We know that after a time the shell of the ovum will putrefy, dissolve, and be discharged; but experience proves that this process sometimes involves considerable danger; danger of hemorrhage first, and afterwards of uterine phlebitis. I shall speak of the treatment in cases of flooding presently; and with regard to the danger of uterine phlebitis from absorption of a putrid ovum, it is often sufficiently imminent to warrant interference.”

Dr. Churchill says also that he does not approve of the introduction of the fingers into the uterus to remove the placenta, unless the natural powers will not act even with the aid of ergot of rye. He disapproves of all the instruments used by the French accoucheurs, and prefers the fingers, but only in cases of great necessity, and he has great confidence in the tampon.

Sir James Simpson, in a paper read before the Medico-Chirurgical Society, 1844, recommended a small expanding sponge tent to be passed into the os uteri (in those *occasionally perplexing* cases where, in abortion, the embryo escapes but the secundines are long retained). He also details the history of a case of abortion in which hemorrhage proved fatal.

This line of practice, however, does not seem to have had many followers, and the vaginal tampon has been preferred.

Dr. Tyler Smith says:—“I have never seen any ill effects arise from such an introduction of the hand and finger.” He also disapproves of all instruments invented for the purpose of removing the ovum and membranes, and prefers the fingers to them all, and says that a case can hardly occur in which they cannot be removed by the fingers.

Dr. Tanner, in his work on the Signs and Diseases of Pregnancy, recommends the fingers to be introduced to remove the membranes:—

“In cases where the fœtus is expelled alone, and the placenta and membranes do not at once follow, it may be advisable to wait about an hour—provided there is no bleeding—to allow the uterus to throw them off spontaneously. If this practice fails, attempts must be made to remove the structures. The ergot of rye will often excite contrac-

tions, and cause the uterus to empty itself; or two of the fingers may be introduced into the uterine cavity, and the mass taken hold of; or a pair of slender forceps, deeply grooved at the extremity, may be gently passed, and the substance seized and withdrawn. Galvanism may also occasionally be resorted to, in the place of these measures; the positive pole of the battery being applied to the upper part of the spine, and the negative to the cervix uteri through a glass tube. In every instance stimulants should be freely administered if the woman be much exhausted; and she should not be left until the hemorrhage has been controlled, and the system has rallied."

One of the most recent writers upon this subject, Dr. Priestly, in the 3rd volume of the *London Obstetrical Transactions*, has written a most able and exhaustive paper on this subject. In this paper he has collected together all the opinions, almost, which it is possible to gather, and has left no channel of information unexplored. He has shown clearly that not only may the hemorrhage in some cases be so great as to threaten dissolution, but that the retention of the placenta or membranes, or a portion of them, may lead to the most serious consequences. Thus, the hemorrhage at the time may be so profuse, that the patient's life is in imminent jeopardy; or even although it is arrested for the time, yet the pieces of retained placenta or membranes act as a foreign body, and repeated attacks of secondary hemorrhage take place, which reduce the patient very much. Third—Phlebitis may arise, either of a fatal kind, or may lead to local derangements, such as phlegmasia dolens. And Fourth—Fatal effects may result from absorption and pyemia. Fifth—Subinvolution of the uterus may occur. Sixth—Formation of moles may be a result.

The result of his experiences, therefore, is, that not only is it necessary in all cases to remove it, but he insists that he has never seen any dangerous consequences follow the cautious introduction of the fingers, and he says that the best results may be expected to follow; nay, he even suggests this should be done in cases where the accoucheur is not called in for some time after the abortion has taken place; and where, from the history of the case, from the frequent attacks of hemorrhage and discharge of putrid fluid, he has reason to fear that some of the membranes are left behind; he also advises the use of sponge tents to dilate the os uteri in those cases, should it be necessary, except there be symptoms indicative of inflammation being present in the uterus or the tissues in the neighbourhood.

We thus perceive that there is a great difference of opinion amongst obstetricians as to the exact treatment for retention of a placenta, after an abortion at this stage of pregnancy. Almost all, with the exception of Denman, regard as a most serious matter the true separation of the placenta and its continuance in the uterus, and justly so, I think, for the reasons already mentioned; but the majority of them regard much inter-

ference as dangerous also. In this country removal by instruments may be said to be altogether discarded; and it is quite proper that this should be the case, for we can never estimate the danger that may result from the application of an instrument within the uterus, where we cannot see nor feel what we grasp in it. In France neither Velpeau nor Cazeaux approve of instrumental interference, nor do any of the authorities now recommend this course.

The only case in which I think we would be warranted in using any instrument is where the placenta would be lying loose in the cavity; but in this case the fingers would answer all the purposes, and would be far less dangerous. Where it would be adherent to the uterine walls, any attempt to remove it by instruments would be attended with great risk.

The question then, I think, becomes narrowed into a small compass, viz., whether, under either of the accompanying conditions, the retained placenta, *i.e.*, whether there be hemorrhage or not, we should remove it by introducing one or more fingers. We see that Wainwright, Tyler Smith, Tanner, Priestly, and Velpeau, see no objection to the introduction of one or two fingers into the uterus, and separating it from the uterine walls, and are strong advocates for this treatment, whilst all the others prefer rather to temporize, and trust in the plug and the administration of Ergot of Rye, and sanction the introduction of the fingers only where these remedies fail.

From the experience of the case which I have detailed, and from the difficulty I found in dilating the contracted os and cervix uteri, and introducing my fingers into the uterus, and operating in so small a space, and of separating the placenta, and from the fear which I entertained that I might do some injury to the uterus, I certainly feel that I would be inclined, should I meet a similar case, to try the effect of plugging the vagina, and wait to see the effects; but, at the same time, should this not succeed, I would have no hesitation in introducing my hand into the vagina, and pass my fingers into the uterus, and endeavour in this way to separate the placenta.—*9th February.*

DR. KIDD exhibited the cephalotribe made for him by Messrs. Fannin, as described in his paper read at the previous meeting, and detailed a further case of cephalotripsy.—*9th February—published vol. xliii., p. 333.*

DR. DENHAM exhibited a large mass of fibrous tumours, involving the uterus, removed by abdominal section.—*9th March.*

Hematemesis in an Infant. By DR. S. L. HARDY.

Hematemesis is one of the complaints which we very seldom meet with during childhood. In his work on the Diseases of Infancy and

Childhood, Dr. West observes:—"Among those rare diseases, too seldom met with for any person to have what can be called real experience about them, may be mentioned the vomiting and purging of blood occasionally observed in infants and young children."

On the 1st of October last I attended a lady in her fourth confinement. Her labour was easy and short, and terminated at a little before midnight. The child, a male, was large, well formed, and, to all appearance, perfectly healthy. In a few hours after birth its bowels were moved naturally, without its having any medicine; the discharge being such as is usual with newborn infants. Eight hours after its birth the child vomited about a tea-spoonful of fluid blood; this was followed by large quantities of clots and blood in a fluid state, ejected from the stomach at irregular intervals until four o'clock in the evening of the 2nd (sixteen hours after birth), when blood, fluid and in clots, was also expelled from the bowels very largely. This loss continued copiously at first, then gradually diminished until four o'clock on the evening of the 3rd, when it entirely ceased. Being, from first to last of the attack, about thirty-two hours duration. Extreme prostration was very strongly depicted in the appearance of the infant; it lay perfectly languid and pale, but did not seem in the least to have any suffering from pain; most of the time it slept quietly. To nourish it and keep up the strength, wine whey was regularly given—it was too feeble to suck the breast.

On the fifth day, at 9 a.m., the child took the breast vigorously, and had improved amazingly; at noon the bowels acted spontaneously, the motion being perfectly natural, and without any traces of blood in it. From this time it recovered steadily, without any untoward symptom.

There was no cause whatever during the labour or after delivery to account for this very severe attack. It was very remarkable for its suddenness, coming on without any previous symptom, and for the astonishing amount of blood which was lost in so short a time, without causing the death of the infant. I don't in the least exaggerate, when I say the napkins taken from the child were saturated with blood, and contained an amount of clots sufficient to fill an evening tea-cup, repeatedly.

When my attention was first directed to the hemorrhage, I made a very particular examination of the nose, mouth, and fauces, but could find no bleeding vessel. It then appeared quite clear that it must come from the stomach, or from some neighbouring organ discharging its vessels into it. The treatment I adopted was Ruspini's styptic, which I gave at first, afterwards I added the tincture of larch bark. Both those medicines are agreeable, and easily taken by an infant. According to Dr. A. T. Thompson, Ruspini's styptic consists of gallic acid, a small portion of sulphate of zinc and of opium, dissolved in a mixture of alcohol and rose-water, so that it is requisite to observe caution in administering it to very young infants, owing to its containing opium.

The tincture of larch bark is a very efficient and agreeable styptic. I directed attention to it in a paper in the *Dublin Hospital Gazette* for January, 1859, as a remedy in the treatment of purpura hemorrhagica, which prevailed during the months of August and September, 1858. Many cases were treated in the institution for diseases of children with this medicine, and rapidly got well, some of them after other remedies had failed. In a case of hematemesis in a middle aged woman, which came under my care at the same time, it was given with equal benefit.

Dr. West mentions having seen three cases of hematemesis in children. They were all boys. The first was attacked when about a day old; he never throve afterwards, and at length died at the age of six months. The second was ten weeks old when taken ill; it never quite recovered, and at length died, after an attack of diarrhea, from sudden hemorrhage into the arachnoid. The third was ten months old. It also died some time after of head symptoms, never having been strong.

This day, April 13, I vaccinated the child, whose case is the subject of this communication. He is now more than six months old—has put on fat, and is thriving well.—13th April, 1867.

DR. WALSH read two cases of ovariectomy.—13th April, 1867.

On Fever Complicated with Pregnancy. By HENRY KENNEDY, A.B., M.B., M.R.I.A.; one of the Physicians of the Cork-street Hospital; and attached to Sir P. Dun's.

FEVER presents itself to our notice under a great variety of phases. To one of these—where disease occurs during the pregnant state—I would ask your attention this evening. In the course of years a large number of cases of the kind have come under my notice; and it seems to me very essential that the practitioner should be thoroughly conversant with them. Taking into consideration the state of the patient when the fever commences, there must naturally be some anxiety as to the result both to mother and child. And yet, in one sense, there are not grounds for this anxiety, as a very large proportion of these cases ultimately do well. Indeed, it is often a matter of wonder what serious symptoms will be present, and yet the patients recover. But before making any further remarks of a general kind, it will probably be well to sketch very briefly a few of the cases, and by this means a clearer idea of the subject will be obtained.

CASE I.—Mrs. H., the mother of seven children, was admitted into Sir P. Dun's Hospital in August, 1853. She was now twelve days ill. Her fever began with symptoms of great urgency, violent headache, rapid pulse, sick stomach, and hot skin. There was also great restlessness. On the fourth day of this attack she miscarried, at about the third

month. From the account given this event seemed to have lowered her fever somewhat. But it now went on of a much lower type than at the commencement, and she got wine from the time she was admitted to hospital. When now three days in, the nurse reported she had a kind of fit, which seemed to have been of an hysterical character, and during which she was insensible, and the right arm worked a good deal. She subsequently, however, made a good, though slow recovery, her fever lasting very nearly twenty days.

CASE II.—Ward, aged twenty-two, admitted into Cork-street Hospital in June, 1853, labouring under fever; on the fifth and sixth days of which her nose bled sharply. Though the symptoms which this patient presented were not serious, still her fever ran very high; and on the 1st of July, when now eleven days at least ill, she miscarried, at about the third month. This seemed to serve the fever much, for she made a very rapid recovery. Till the miscarriage occurred her pregnancy was not known.

CASE III.—Robinson, a large fat woman, married five months; came in labouring under fever, and complaining of severe pain in the back. Her fever did not present any marked feature till the eighth day, when she miscarried; and within the next twenty-four hours a profuse sweat occurred, which seemed at once to prove critical, and she made a rapid recovery.

CASE IV.—Hogan, aged thirty-five, came in with what seemed to be very light fever; she was six months pregnant. I confess I was surprised to find that on the ninth day she miscarried. For four days subsequent to this she was doing well. At this time, however, she relapsed. Fever, with much higher symptoms than at first, appeared, and was particularly marked by very obstinate vomiting. This, however, though enough to keep me anxious for two days, then subsided, and the patient made a good though slow recovery.

CASE V.—A woman of colour, five months pregnant, came in with fever. She seemed ill enough to be spotted, but her colour prevented me seeing them. On the eighth, or possibly the ninth day, she miscarried of twins. One of these, a female, partook of the mother's character, being coloured; the other, a male, was white, but had some spots like purpura, close to one knee. This patient, like the last, did well for some days after the miscarriage. She then relapsed, became most seriously ill, her life being in the balance for many days. After a very prolonged illness, however, she recovered.

Some explanation, I presume, can be given of the difference in colour of the twins, but I will leave it to others to explain the fact.

CASE VI.—Carleton, aged twenty-one, was sent in by Dr. Kidd from the Coombe Hospital, in July, 1866. She had been confined eight days previously, and within forty-eight hours of her confinement had been seized with symptoms of fever. When first seen in Cork-street her pulse was 126; the tongue that of a person in heavy typhus; the skin very hot, but there were no spots. The abdomen was tympanitic, and yet she bore pressure tolerably well. The lochia were present in very small quantity, as was also the milk. Her person emitted a very heavy smell. She was treated with barm, wine, and a poultice to the abdomen. She continued much in the same way for three days, her nights being very restless, even though she got an anodyne. At last, on the fourth morning, it was found that the pulse had fallen to 106, and the other symptoms bettered likewise. In this comparatively improved condition she remained two days, when the fever suddenly, and without any cause I could make out, rose again as high as at first. She had now, too, and for the first time, distinct pain over the left ovary. The tongue had become red and dry, and the skin much hotter than on the previous day. The former treatment was continued, and, in addition, leeches were twice applied to the painful part. Two days later I found her in a profuse sweat, her pulse fallen, and her tongue moist; and as she had still pain in the abdomen she was ordered Dover's powder in ten grain doses. Under this plan, and, as I believe, in great part due to the critical sweat, the fever subsided, and the patient made a very rapid recovery. The duration of this case was fifteen days, and from the time of her confinement seventeen days. There will be occasion to advert to it again.

CASE VII.—Baker, aged thirty-five, was admitted to the Cork-street Hospital ten days after her confinement. She had, on admission, very heavy fever, and her mind was much excited, her eyes having a very wild expression. In fact she had much the appearance of a person labouring under puerperal mania. Her pulse was 130, and her tongue dry and brown. She seemed to have no pain on pressing the abdomen, nor was there any tympany. She was treated with barm, and she got a full anodyne at night. She had also wine. Under this plan the patient, though at first a very unpromising case, came steadily round.

CASE VIII.—In September, 1866, White, a woman of twenty-eight, was admitted with fever of the gastric type, and in a very severe form. On the eighth day of her illness she miscarried, at about three and a-half months. This was attended with very little loss. Four days later, that is, when twelve days ill, the following note was made:—"Great distress; tongue very red and furred; respiration hurried; pulse 140; no pain on pressing abdomen, nor any spots." She was ordered barm and eight ounces of wine. Next day, thirteenth day of the fever, symptoms much

the same. But she had no sleep whatever, owing to a sharp attack of both vomiting and purging which came on during the night. It will be recollected that this case occurred when the late epidemic of cholera was at its height. Her respiration was still hurried, and the nares were acting, though no mischief could be detected in the chest. From this out the fever became well-marked typhoid; the spots of this type of fever appeared, and the diarrhea was very characteristic, and proved most obstinate. It was, however, finally subdued, and the patient made a good though slow recovery.

CASE IX.—Parks, aged thirty-four, was admitted labouring under fever. She was a thin delicate person, and her fever did not present any feature which would lead one to dread danger. She was more than two months pregnant. In the course of four days, however, the fever put on a very much more serious character, having assumed all the signs of typhus. In this state, and when now about ten days ill, she miscarried, but this was not attended with any loss. Still the event seemed to produce a shock from which she could scarcely be said to have rallied, for she died nineteen hours afterwards, and somewhat suddenly. This case, which occurred several years back, I was unable to offer any explanation of at the time. No *post-mortem* examination could be obtained. Now, however, it appears to me very probable that the patient had a weak and possibly dilated heart.

It was my intention to have introduced here some cases in which, while pregnancy existed, and fever, still miscarriage did not occur. I have notes of several such cases; some presenting features of much interest. I find, however, that their detail would occupy an unreasonable length of time of the meeting, and must therefore pass them by. I may just observe, in passing, that one such case I saw with my friend Dr. Shannon; and I allude to it here because the type of the fever was typhoid, being very well marked and of a severe character. Yet the lady, who was about five months pregnant, passed the fever well, and went on to her full time. Such cases I take to be rare; I have notes of three, of whom two miscarried; and such an event, I guess, must be almost natural, on account of the violent diarrhea which marks this type of fever.

CASE X.—Maguire, aged thirty-six, but looking older, admitted when she must have been several days ill of typhus fever. On the second day from admission she gave birth to a living child, her seventh. Subsequent to this the fever put on still more serious symptoms. The pulse rose to upwards of 130; skin became very hot; tympany set in, but not apparently any pain on pressure, and there was a total absence of milk

and the lochia. I confess I looked upon the case as hopeless. Yet she recovered, though her recovery was of the very slowest. The next case was of a different kind from any yet described.

CASE XI.—Doyle, aged twenty-six, six months pregnant of her first child, was admitted labouring under fever of a very severe type, as shown by her tongue, eyes, heat of skin, and rapid pulse. She had also the most urgent dyspnea, preventing her entirely from lying down. The feet and legs were slightly swelled, as was also her face about the eyes. I could detect nothing wrong in her chest, but the respiration was intensely puerile. In this state of great distress she continued four days and nights, her position constantly being that of sitting on the side of the bed with her feet propped up. The case was so urgent that I had got my colleague Dr. Mason to see her, with the idea that we might be driven to bring on delivery, when at this juncture signs of it came on, and she was shortly delivered of a dead child. After this event she was able to lie down, but the fever rose to a very great height, the pulse being full and bounding, and tympany coming on, but no pain on pressure. This state continued for some days, during all which time there was a regular struggle for life. Finally, however, she recovered, though it was not what would be called a good recovery, for when she left hospital she was still delicate.

CASE XII.—In December, 1860, a woman named Daly was admitted into Sir P. Dun's Hospital. She reckoned she was within three weeks of her confinement, and stated that a month previously she had been for some days in the Britain-street Hospital for an affection which seemed to have been an abscess of the vagina. It was with very great trouble she was carried into the hospital, for the gentlest motion caused a degree of agony which I have rarely seen equalled. All her suffering was, I found, referred to the dorsum of the right foot and the right elbow joint; of the two the foot was the worst. With this suffering there was the very highest fever, and great distress, with anxiety of countenance. There was no great swelling of either the foot or elbow; but there was some, and the increase of temperature was very marked. As a good deal of obscurity hung over this case, I was very glad to be able to avail myself of the able assistance of Professor Robert Smith, who advised leeches to the affected parts; small doses of blue pill, and opium in such doses as would allay pain. This plan was steadily carried out for three days, but with comparatively little relief to the patient's sufferings. At the end of this time, and as it seemed likely that pus had formed on the dorsum of the foot, Dr. Smith made an incision; no pus was found, and yet the incision was followed by marked relief. It was now determined that the mercury should be pushed so as to produce its specific effects. As they became evident the

patient's sufferings declined, and when salivation came on she was nearly free of all pain, and in another week was completely so; and the patient made then a very rapid recovery. It is more than probable, and so Dr. Smith thought, that it was the periosteum alone was engaged in this case. In connexion with it the following seems specially worthy of detail, though the result was not so fortunate.

CASE XIII.—Quinlan, aged twenty-six, five months pregnant, admitted into the Cork-street Hospital in January, 1852, under the care of the late Dr. G. Kennedy. The patient had fever of a very high character, and of the inflammatory type. The pulse was 130, and bounding, and the skin remarkably hot. There was great distress and anxiety; her breathing was hurried, and she complained of very severe pains in her back and down the lower extremities. It was clear, even at the very first visit, that there was something unusual in the case. The stethoscope detected nothing wrong in the chest. In this state the patient went on six days, not in any way, however, improving, still suffering greatly from severe pains; her breathing being laboured and her nights very bad, in spite of anodynes. The fever at this period ran so high, and her pulse continued so full and bounding, that it was determined to bleed her, and eight ounces of blood were taken. This gave some relief, but only for a few hours. The blood was, in an extreme degree, buffed and cupped. Thirty hours after the bleeding the patient miscarried, and with very little loss. This event, however, so far from improving the state of the patient, only seemed to make matters worse. The fever changed its character; tympany appeared; the pains, so general before, now became localized to the joints; some of which swelled; and now, also, I detected signs of pneumonia in left lung. Though looked for daily, no signs had previously been detected. In this state, and with some new joint complained of each day, this poor patient held out for many days longer. Finally, the large joint of each great toe suddenly swelled. This was attended with the most exquisite suffering, and in the course of a few hours by redness over each joint; and literally within thirty hours from the time swelling first showed itself, both joints had burst and given exit to a quantity of ill-formed pus. It is almost needless to add that with such accumulated suffering the patient sunk. The entire illness of this patient must have occupied little short of twenty-six days.

The two last cases given belong to a class of affections in connexion with pregnancy which it is of no little moment to recognize. I need scarcely observe that it is but a modification of this disease from which her Royal Highness the Princess of Wales is at the present moment suffering, and I confess to having misgivings as to its result, notwithstanding the strong promises given of her recovery, a stiff joint being much to be dreaded. I am happy, however, in being able to say that

this affection is, comparatively speaking, known to the profession in Dublin; and in proof of this I would refer to the highly practical volume lately published by a member of this Society—Dr. Beatty.

For so far I have been speaking of the occurrence of common fever as a complication of pregnancy. But it is, of course, well known that any of the specific fevers may also occur in this same state. Of these scarlatina seems to be by far the most common, but it also occurs with small pox and measles, though I have not chanced to meet measles and pregnancy in the same patient at the same time. The following case of small pox is, however, worth giving:—

CASE XIV.—A girl of twenty-three years of age, and unmarried, was admitted labouring under what seemed to be fever of a severe kind. She was very near her confinement. Her illness turned out to be small-pox, and then it was ascertained she had never been vaccinated. The disease became rapidly confluent, and the swelling which usually attends it was very great. Whilst in this state her labour came on and was not attended by any untoward event. Still matters did not mend; the fever got of a much worse character; her brain became engaged, and she died two days subsequent to her confinement—as pitiable an object as it has ever been my lot to witness. I will close the detail of cases with an account of two cases of scarlatina complicating pregnancy.

CASE XV.—M'Donnell, aged thirty, was admitted to the Cork-street Hospital labouring under scarlatina, and many, if not not all the signs of puerperal fever with it. It was the fifth day from her being confined. Her labour was, I understood, natural. When I first saw her she lay utterly prostrated, and her look was quite in keeping with her position in bed. She was covered with the bright rash of scarlatina, but made no complaint, even when asked, of her throat. The abdomen was very tympanitic, and pressure in some parts caused her pain. Her pulse was 130, very feeble, and the bowels were too free. In addition to these grave symptoms, however, some of the joints, as the wrist, ankles, &c., were swollen and exquisitely painful, and there was a patch of redness, like erysipelas, on the outside of the right leg. Matters did not improve in any respect with the patient. A tendency to stupor showed itself; The right wrist, which had been swollen from the first, increased greatly, the swelling extending up the arm, and involving even the scapula; the breathing then got hurried, and so this poor woman sunk—the tenth day from her confinement and the fifth from her admission to hospital. The bowels continued too free to the last.

CASE XVI.—Dixon, a woman of thirty, was confined on Thursday, 11th July, 1852, and four days later was admitted to hospital labouring

under scarlatina, the symptoms of which began the day after her confinement by violent vomiting. When first seen in hospital she was heavy and stupid, could not put out her tongue, and had passed under her. Her body was covered with a bright red rash, which was, however, very dark on the inguinal regions, very like purpura. The uterus felt large and the belly tympanitic, and there were no signs of either the lochia or milk. Pulse was 130. She got wine, and barley water acidulated with dilute muriatic acid. On the next day the symptoms were much the same, except that a tendency to diarrhea now existed, and, besides excoriation of the pudendum, there was also extensive stripping of the right elbow, on which a very large blister seemed to have formed, and then rubbed off, leaving the true skin of a dark livid colour. She was now ordered barm, and the wine was continued, and the following day some signs of amendment showed themselves, as she now put out her tongue, and the pulse had fallen. It is enough to add from this out the patient began to mend, and finally made a good though slow recovery—a result which it has never been my lot to see in any similar instance, for the disease here was of the most malignant character. In connexion with this subject the meeting may remember a paper of great interest read some time back by Dr. McClintock, in which the results of treatment were very satisfactory. The cases, however, did not appear to me to be of the same severe character with the one detailed.

In concluding this paper I would make a few general remarks on the subject. In the first place, it may be observed that the occurrence of fever with pregnancy can scarcely be looked upon as a very serious affection to the mother. In other words, the mortality in this state is very small. Indeed, I cannot doubt that I have seen several cases where the abortion or the miscarriage—as the case might be—proved critical, the fever after it declining with great rapidity. On the other hand, when the child was retained, the fever ran out to the usual length. It may, I think, too, be further stated that the fever which attacks pregnant women is rarely typhus, the cases where spots appear being far in a way exceptional. Still cases do occur—and some have been given this evening—where both typhus and typhoid were the types of fever present. I need scarcely add that when this is so the case is the more serious. It has often appeared to me as if the pregnant state were not obnoxious to the more severe types of fever. The symptoms may be, and often are, most urgent, and yet the mortality is, as a whole, small. Whilst speaking thus it is but right to notice those exceptional cases, some of which have been given, and where not only danger to the mother, but loss of life occurred. These cases almost all belong to the class of affections which come under the denomination of diffuse inflammation; but I have not time to enter into this part of the subject here,

further than to say that the disease, in some cases at least, precedes the occurrence of miscarriage or delivery at the full time. I think I have heard practitioners in midwifery say that puerperal fever sometimes exists before the birth of the child. All such cases are necessarily most serious, and frequently very obscure. The two cases given this evening, in which the joints were attacked, bear out this statement.

On the subject of the treatment of fever occurring during pregnancy I have little to say. It is, I believe, a good rule not to allow the pregnancy to alter the treatment which the symptoms present may demand. A treatment guided by a common discretion runs no risk, I believe, of inducing miscarriage; and when this event does occur it is due to the intensity of the fever. This, at least, has been my experience on the point. There is, however, one class of cases in which pregnancy ought, I think, to modify our treatment, not by making it more time-serving, if I may so call it, but by making it more active—I mean where, with the ordinary signs of fever, the brain is the organ chiefly engaged, though from want of space no cases of this kind have been detailed. I have met several, in which the suffering referred to the brain was very great, indeed, so much so as to lead me to dread convulsions. This, however, I have not seen. Such cases have been treated chiefly by leeching the head^a freely, and also by small doses of tartar emetic. Nor am I at all sure but I have seen cases where benefit would have arisen if blood had been taken from the arm. There is such a feeling now-a-days against such a mode of treatment that I have not, however, put it in force. In those cases where the type of the fever was typhus, and more particularly where petechiæ were present I have used barm, and, as I believe, with marked benefit. On the other hand, where the fever was typhoid, the treatment of which enough has been stated in another place, was adopted. As to the management of those cases where, in conjunction with pregnancy, the joints become engaged, I fear little can be done. If several joints be engaged, the case, as far as I am aware, has ended fatally. But if only one or two are involved, as is the case with the Princess of Wales, the

^a The following case, though of a somewhat different character to those alluded to above, is worth noting here :—Behan, a woman of thirty, of a sanguineous temperament, was admitted to hospital on 20th April, 1867. She is four months pregnant; has very high fever, attended by well marked spinal arachnitis, the head being forcibly drawn backwards and fixed. She had a marked frown on her forehead, and complained much of pain through the head and in the nape of the neck. There were a few indistinct petechial spots, chiefly on the chest. Leeches were directed to the head and nape, and she was put on doses of grey powder every third hour. But though this plan has been pursued till her mouth got sore, it does not seem to have conquered the disease. The pain lessened a little at first, but then recurred, and she still suffers much from her head; while the fever keeps up, but not so high as at first. She is much worse at night. After getting much better of the head and spinal symptoms, the patient got erysipelas of the head and face, which proved fatal.

treatment has yet to be determined. In such cases, when they do recover, the joint, I believe, becomes ankylosed. It seems to me a question whether, in such circumstances, mercury, used so as to produce its specific effects, and at an early stage of the attack might not prevent such a result. In one of the cases detailed this evening, where the elbow and upper part of the foot were engaged, and where the suffering was very great, mercury produced a most beneficial effect. But time prevents me from entering farther into the question here.

In the last place, I would observe the cases detailed prove that we may have fever in connexion with pregnancy, which has nothing in common with puerperal fever. It is true, in some of them very great difficulty existed in determining the question. The case sent in by Dr. Kidd was a marked example of this kind; and I have seen several others. But in the great majority of instances no difficulty of the sort existed; and the small mortality tends to confirm the point. I must add, too, it has often struck me as strange that puerperal fever did not show itself in at least some of the patients. Here were women, who at the height of a fever miscarried, or were delivered at the full time, and who, it will be recollected, were surrounded by a fever atmosphere, and yet the fever, peculiar to their state, did not develope itself. Truly, we have much yet to learn on the subject of contagion. Indeed my own conviction is, and it has not been hastily taken up, that puerperal fever arises commonly from causes within, and not without, the individual; and that those who would shut up institutions like the one we are now in, and necessarily overlook the great benefits they confer on the poor, and this on the plea of contagion existing within them, commit a grave mistake. The same line of argument would do away all our hospitals and charitable institutions, inasmuch as they are all, in turn, visited by contagious diseases. But this part of the subject is beside the more immediate object of this paper, and cannot be further pursued here.—11th May, 1867.

Case of Early Abortion—Retention of the Placenta and Phlebitis. By
HENRY J. K. GOGARTY, F.R.C.S.I.

ON the 15th of January I was sent for to see Mrs. C., aged thirty-two, mother of eight children. Her history is as follows:—

On the 2nd of January, while going down stairs (being then a little over three months pregnant), she was frightened by one of her children receiving an injury, and from that moment until the following evening she experienced severe pain in the back, a dragging sensation in the loins, and a feeling of sinking. She aborted the night of the 3rd. The fetus came away without much effort of the uterus, but both the medical attendant and nurse were surprised that the secundines did not pass in a reasonable time. There was very little hemorrhage, and that that did

exist was controlled by the application of cold to the vulva. The medical gentleman now made a vaginal examination to ascertain the exact condition of matters, and failed in detecting, as he expected, the placenta in the os uteri. He administered forty grains of ergot within an hour without effect. Believing that there was no disposition on the part of the uterus to get rid of its contents, and no hemorrhage being present, he trusted the case to nature, and left, desiring the nurse to examine the lochial discharge minutely, and report to him the exact consistence of it. The discharge was very scanty, and disappeared entirely the next day, so that there was no time for the more solid elements of the placenta to dissolve and come away.

The patient apparently had escaped all mischief, and was up about her bedroom for four days, when she was suddenly seized with a fainting fit, and carried to bed; on recovering consciousness she found the left leg stiff and painful.

At this stage of her illness I first saw her, twelve days after the abortion.

She suffered from great and general irritability, and severe pain in the calf, and complained of weakness, thirst, loss of appetite, and sleep. Her pulse was quick and weak, 132 in the minute; tongue coated; skin dry and hot; bowels confined; urine scanty.

In examining the leg I found the temperature diminished; no swelling or increase of size; it was stiff and semiflexed; the posterior tibial vessels were exquisitely tender to the touch, and extension of the limb caused her considerable pain. From the suddenness of the attack and the diminution of temperature, I at first inclined to the opinion that an embolus had become dislodged from some of the hypogastric vessels, but subsequently unmistakable evidence of phlebitis showed itself in the extension of the inflammation to the popliteal and inferior part of femoral veins. The temperature of the limb gradually increased, until it considerably exceeded the natural standard; the vessels became swollen and cord-like to the touch.

The treatment adopted was small doses of calomel and James' powder, so as speedily to affect the gums; opium to relieve pain and procure sleep; wine and strong extract of beef. Locally, poppy head stupes, hot fomentation, and elevation of the limb.

In a few days, under this treatment, the inflammatory and febrile symptoms subsided, leaving the affected vessels apparently thickened. She was then put on chlorate of potash, with bark and dilute citrine ointment rubbed into the course of the vessels.

Although the local symptoms had almost entirely disappeared, yet her strength did not recover as rapidly as one would wish, and she remained in a weakly condition, very fretful and low spirited, without any disposition to sleep or take nourishment.

On the 27th, finding no visible improvement, I requested Dr. Kidd to see her with me. He examined her very carefully, and considered there was a probability of the symptoms merging into pyemia.

She was now changed into a more airy apartment, and ordered nitro-hydrochloric acid with bark, her wine and beef extract to be continued.

She remained four days in the balance, and at last showed some inclination to recover; her spirits became more buoyant; she slept better, and expressed a wish for solid food; she got some wild fowl, and from this time gained strength every day, so that on the 7th of February she was able to be removed to the suburbs.

During the transit she caught cold, shivered, and on the 9th I was again sent for to see her.

This occasion she complained of pain and stiffness in the left groin. The crural portion of femoral vein was swelled thick and hard, the inflammation passing from above downwards, involving the upper two-thirds of the vessel. The leg rapidly enlarged, becoming twice the circumference of its fellow; it also was tense, white, and shining, evidently a true type of phlegmasia dolens.

She was ordered small doses of grey powder and Dover's powder; leeches applied to the inflamed vessel, followed by hot fomentation and linseed poulticing.

On the 14th the phlebitis again subsided, and on this date she was put on iodide of potassium and bark, stimulating embrocations, and bandaging to be applied to the leg from the toes to the groin.

She went on satisfactorily until the 25th, when she was permitted to get out of bed, and recline on a couch, wearing her web roller as a measure of precaution against the swelling. Her convalescence continued undisturbed, and early in March she again undertook her household duties.

It may be seen by the foregoing case that the placenta never came away per vaginam, being in this respect analogous to that verbally communicated to this Society in February last by Dr. Beatty, and which occurred in a lady under his and the late Professor Montgomery's care. But his patient was fortunate in escaping the untoward results consequent on such an accident.

It would appear that permanent retention of the placenta (if it may be so called) has engaged the attention of British accoucheurs but slightly, and it is to the French and American authors we owe the most of our knowledge on this subject.

M. Colombat De L'Isère, in his valuable treatise on the diseases and special hygiene of females, speaks of it in the following manner. He says it sometimes happens when the fetus is expelled from the uterus that the secundines are retained by adhesion, and continue to live and be developed. It is precisely in such cases that fleshy moles are formed.

Dr. Henry Bond, of Philadelphia, treats the subject very fully in an article on extraction of retained placenta in abortion, which appeared in the April number of the *American Journal of Medical Science* for 1844.

It has also been noticed at some length by Baudelocque and Dr. Dewees of Pennsylvania. The former says if there are cases of uterine hemorrhage which we may be compelled to commit the delivery of the placenta to nature, and to acknowledge the insufficiency of art, they most frequently occur in cases of abortion, since for operating in such cases we have almost none of the resources that are available when retained placenta and flooding occur at the full period of utero gestation.

Dr. Dewees remarks in his paragraph on the subject:—I have ever found in such cases much effort is required to expel the secundines, nor need we be much surprised at this when we recollect the strong disposition the uterus has to close at this period of utero gestation. Indeed, I have repeatedly witnessed most alarming flooding from this cause (retained placenta), and I am certain that this occurred from the presence of the placenta, as the discharge always ceased as soon as this mass was removed. When the hemorrhage is thus maintained we should remove the placenta as soon as possible; but this is the difficulty. In such cases he says he has used, with the most entire success, his small wire crotchet, and in those cases where it was used it was the means of saving the patient's life.

The only British authors with which I am acquainted who have treated this subject at length are Dr. Matthews Duncan, of Edinburgh, and Dr. Priestley, of London.

The former gentleman, in an article on fetid uterine discharges in the *Edinburgh Medical Journal* for 1863, points out the deleterious influence of retained secundines even at a very remote period from the date of abortion. He illustrates his views on this subject by carefully taken and well authenticated cases, and recommends the complete evacuation of the offending structures from the interior of the uterus by means of the sponge tent, polypus forceps, and double catheter injection apparatus.

Dr. Priestley, in his paper on the treatment of cases of abortion in which the placenta and membranes are retained, read before the Obstetrical Society of London in 1861, and published in the third volume of the Society's Transactions of same year, gives some very interesting cases in which removal by Mr. Wainwright's plan of manual extraction was followed by the happiest results, and his patients were relieved from a long train of repeated hemorrhages.

Dr. Tyler Smith gives his sanction to this method of removal, and states that when necessary there need be no hesitation in introducing "the hand into the vagina in order to get the finger into the uterus." He further states:—"I have never seen any ill effects arise from such an introduction of the hand and finger."

According to Mr. Whitehead's statistics of the Manchester Lying-in Hospital, abortion occurs most frequently in females who suffer from what they term inward weakness, impaired health, and acute disease. Out of 1,200 cases of abortion recorded by him, something more than 900 occurred from the above-mentioned causes. We may naturally conclude that a woman who suffers from any one of these three conditions must be more or less debilitated from the weakening nature of those maladies, and therefore an unfavourable subject for continuous or excessive hemorrhage, or for putrescent absorption giving rise to phlebitis, peritonitis, pyemia, and typhoid sinking. As hemorrhage and putrefaction are the two great evils to be feared in retained placenta, I think it becomes the duty of the accoucheur to employ all justifiable means at his command to rescue his patient from the dangers consequent on either of those conditions.

The first thing that should present itself to his mind is to get rid of what Dr. Dewees terms the difficulty (the retained placenta), and the next thing is the best means of removing it at the least risk to his patient's life and future health.

The recognized practice of the Dublin School is to stimulate the uterus to contraction by friction, cold, ergot, stimulating enemata, and, if necessary, the plug. In the majority of cases one or more of these means succeed, and all our anxiety terminates.

Yet there is a considerable proportion which will not yield to any or all those methods, and the only course left open to us is to extract the secundines, or trust to nature to get rid of them by liquifaction.

I think we are never justified in leaving a patient to natural effort, after a reasonable time has elapsed, as the weight of opinion is in favour of the production of serious consequences if the patient be left unaided by art.

I would follow the practice of Dr. Dewees and Dr. Bond in extracting the placenta instrumentally, in cases which its removal could not be accomplished by the finger. The former gentleman recommends a small wire crotchet for that purpose, and from his own account of its success he would lead us to believe it was all sufficient.

However, there are two objections to its employment; first, being a sharp-pointed instrument, it is liable to tear the inside of the cervix or either lip of the uterus. The second is that it might tear through a soft mass of placenta, thereby increasing the hemorrhage, and rendering the extraction more difficult.

I consider the instrument introduced to the profession by Dr. Bond, of Philadelphia, and which he designates the *placental forceps*, the most suitable and easiest of application in this operation.

It is perfectly safe and so simple in its mechanism, that the most inexperienced can use it with facility and precision. I have seen it employed frequently in England, and many medical men who have adopted it for years informed me that it has been the means of saving lives.

For the benefit of those members of our Society who may not be acquainted with this instrument, I will quote a few extracts from the author's description of it. It is about ten inches long, curved laterally on a radius of about twelve inches, and the blades about one inch and half longer than the handles. The blades terminate in an oval expansion nearly half an inch wide. The handles and blades, including the edge of the oval expansion, are rounded or bevelled off very much like those of an œsophagus forceps, so as to prevent the probability of wounding or pinching any of the surrounding soft parts. The mode of using it is to place the patient in the usual obstetric position, with the hips well over the edge of the bed; next introduce the fore finger of the left hand well up to the os uteri, and on the anterior surface slide the instrument into the canal of the cervix; then seize the retained placenta, and gradually withdraw it, still keeping the instrument guided by the left index finger.—11th May, 1867.

Dr. JOHN A. BYRNE exhibited a fibrous polypus uteri, about the size of a small egg, which he had removed with the écraseur, and gave the following history of the case:—

Mary P., age forty, unmarried, by occupation a servant, consulted me in June, 1866, on account of long continued uterine hemorrhage. She was very blanched and anemic; her lips were pale; a well-marked anemic bruit in the aorta and carotid vessels, and also a venous murmur in the right subclavian region. She complained of great weakness and languor, and could scarcely walk, although she was a woman of strong formation, and much above the average height.

On inquiring into the history of the case she informed me that she had always enjoyed excellent health, and menstruated regularly until three years since, when she began to perceive that her monthly illness was prolonged, and that more discharge occurred than what was usual, and that by degrees from this it went on until the hemorrhage was constant.

She consulted some hospital physicians, and was treated by them for this hemorrhage, but without much permanent benefit. During this time she was frequently examined per vaginam, and her disease was pronounced incurable. She stated herself she was recommended to apply to the hospital for incurables, so that evidently the severe hemorrhage, without any apparent cause, may have led the gentlemen to suppose it was a malignant disease of the uterus, and this opinion was, perhaps, strengthened by feeling an enlargement of the uterus which existed previously to the descent of the polypus, which at that time was intra-uterine, for it is not very probable that one of the gentlemen whom she mentioned to me as having given to her this advice could have mistaken a polypus for cancer. I mention this circumstance to illustrate how cautious we must be in pronouncing a positive opinion in doubtful cases.

This occurred in the month of August or September, in the year 1865; she then went for a short time to the country, where she did not derive much benefit, and she came, as I have stated, in June, 1866, under my care.

Having proposed to examine her, she most willingly assented, and on introducing my finger I found a tumour occupying the upper part of the vagina, and movable in all directions, but attached by a pedicle to the anterior wall. It was the size of a small egg, and oval in shape.

I explained to her the nature of her disease, and asked her particularly had anything occurred since the time, when she was under observation, to induce her to think that there was any change in the symptoms, so as, if possible, to fix the occurrence of its escape from the uterus, but she could not fix upon any circumstance. Latterly, however, the hemorrhage had become most severe, and she complained of a sense of weight; and, as I have before stated, her appearance indicated great anemia, produced by severe and long continued hemorrhage.

I explained to her that by removal of this polypus a termination to her symptoms would in all probability ensue, and I need scarcely say that she most willingly assented to its removal. I made her remain in bed for some days, and take nourishment, wine, &c., previous to the operation, and on June 30, assisted by my friends, Drs. Hardy and Kidd, I proceeded to remove the polypus.

The instrument used was the wire *écraseur*. Having placed her on her left side, with her hips elevated, and opposite to a good light, the left fore and middle fingers were introduced into the vagina, and carried up to the os uteri and the polypus caught by the vulsellum. The *écraseur* armed, was now passed up and slipped over the tumour, and applied over the pedicle. This was found just within the os uteri, and on the anterior part. The noose, having now been slipped over the tumour, was drawn tightly over the pedicle, and the screw turned gradually, and in a very short time the pedicle was severed, and the tumour fell out. There was scarcely any hemorrhage, and the patient complained of very little pain. The polypus, although small, yet was not very accessible. This depended, however, more upon the want of capacity in the vagina and the narrowness of the vulva—the woman not being married—than upon any great difficulty in fixing it.

The patient went on very well, and had no bad symptoms; and, with the exception of a slight hemorrhage on the 17th day, she never complained, and recovered perfectly, and since that time she has been in the best of health; has menstruated regularly; has had no hemorrhage, and has improved in appearance.

Sometime since, however, I had an opportunity of seeing her, and from circumstances which happened, I have reason to suppose that her mind is not as sound as formerly; in fact, she has betrayed some signs of

aberration. Whether this may remotely depend upon the long continued loss of blood producing an effect upon the brain, or whether it is a mere coincidence, I do not take it upon myself to decide. I remember, however, a case in which puerperal insanity followed severe secondary hemorrhage, and it was a long time before the woman's mental integrity was restored.—*8th June, 1867.*

A Case of Coccydynia Cured by Operation. By GEO. H. KIDD, M.D., F.R.C.S.I., Assistant Master to the Coombe Lying-in Hospital, &c.

COCCYODYNIA is the name proposed by Sir James Simpson for a painful affection of the coccyx, of not uncommon occurrence, but not recognized or described in books, till he gave an account of it in the *Medical Times and Gazette* for 2nd of July, 1859. Since then Erischen, in the fourth edition of his "Surgery," has given a short account of it, founded on Simpson's paper; and Dr. West has described it in the third edition of his work "On the Diseases of Women," under the more correct, but not so convenient term of coccygodynia, the name suggested by Scanzoni in a very elaborate paper published in the *Wurzbürger Medicinische Zeitschrift*, and which has been followed by Dr. West in his observations. In this paper Scanzoni gives an account of twenty-four cases, but as many of them were accompanied by various affections of the uterus and neighbouring organs, and the pain ceased on the removal of the associated disease, they can scarcely be considered cases of the affection described by Simpson.

The leading symptom of the disease is, according to Simpson, pain in the region of the coccyx experienced by the patient whenever she sits down and rises, and sometimes while she remains in the sitting posture. Most of the patients affected with it are obliged to sit on one hip, or with only one side resting on the edge of a chair, or with the weight partially supported by a hand on the chair, and they are rendered sometimes very awkward and miserable in consequence; some of them actually dread sitting down, so great is the pain then felt, and not only so, but the pain is, in many cases, aggravated or renewed whenever it becomes necessary to resume the erect posture. There are other movements of the coccyx besides that are liable to be attended in such cases with pain. Thus, some patients have pain with every step they take in walking, while in others the movements of progression excite no uneasiness whatever. Others, again, feel the pain most when the bowels are being evacuated, or under any circumstance in which the sphincter or levator ani, or the ischio-coccygeal muscles are called into action.

The pain is not in every case very acute or intolerable, and varies as to its severity in the same patient at different periods. It is always increased by pressure on the coccyx, and more so when the pressure is

made from the point upwards; and it is always increased by moving the coccyx with the finger, but the kind of movement that most aggravates the pain differs in different cases.

The pathological cause of the pain, according to Simpson, is disease of the coccyx or of the coccygeal joints, or inflammation of the surrounding fibrous tissues, arising in general from some injury inflicted during labour, or in some other way. In one of his cases it was caused by a fall from a horse. Two of Scanzoni's patients referred it to frequent long rides on horse-back. South mentions the case of a gentleman who fractured his coccyx by sitting down suddenly on the corner of a snuff-box, and who was ever afterwards obliged to wear a pad on each tuber ischii to keep off pressure.

In many cases the disease cannot be traced to any definite cause. One of Simpson's patients attributed it to sitting for a long time on damp grass. It may occur in the male or female, in the married or single woman, but the most frequent cause is injury to the part during childbirth. Of Scanzoni's twenty-four cases, eleven of the patients attributed the disease to this cause. When the diseased condition is once established every movement of the muscles, or structures connected with the coccyx, causes pain, and prevents the part from regaining a healthy condition.

For the treatment of the disease Simpson recommends the subcutaneous division of all the muscles and fibres connected with the coccyx, so as to isolate it and allow it to remain at rest, which he has found to give almost immediate relief in most cases, but in some it has failed, or the relief has only been temporary, the pain returning after a time. In one of the cases detailed in his original paper this occurred, and he subsequently removed the coccyx entirely; and I find, by a notice in the *Edinburgh Medical Journal*, that this woman was exhibited at a meeting of the Edinburgh Obstetrical Society on the 28th March, 1861, and she then stated that, "since the operation had been performed" (two to three years probably) "she had found herself perfectly well, and was now able to do all her ordinary work as a laundress, for which she had been utterly incapacitated."

M. Gosselin has recorded a case that he had under his care in the Hôpital Beaujon, in which subcutaneous section of the muscles was tried, but, he says, failed. Hesitating to adopt the extreme measure of removal of the coccyx, he again had recourse to palliative treatment, and suggested the simple use of an india-rubber air-cushion. "After the patient had steadily continued this plan for twelve days, she had so far lost her pains as to be discharged from the hospital in a fair way of convalescence, since nature herself, the stress on the parts being taken off, would doubtless complete the cure, under the favourable auspices of rest." M. Gosselin says it was found necessary to regulate the bowels by a rhubarb aperient, to prevent hard motions passing over the tender part.

The Editor of the *Gazette des Hôpitaux* quotes, in connexion with this case, a similar one, cured, he says, in a similar way, which fell under his observation some years ago; but it will be observed that in M. Gosselin's case the cure was not by any means complete when she left the hospital, and in the case that has been recently under my care, a long-continued and careful trial was made, before the operation, of india-rubber cushions, and other devices for keeping off pressure, without any benefit whatever.

Scanzoni states that leeches to the coccyx, tepid baths, warm fomentations, and, if the pain have a neuralgic character, subcutaneous injections of morphia, have seldom disappointed him in effecting a cure. He never found it necessary to adopt the subcutaneous section. I have already mentioned that in many of his cases the pain appears to me to have been only sympathetic or reflected, and I find that of the twenty-four cases but ten were cured, nine were relieved only, the result in three cases was not known, and in two the evil remained unrelieved by any treatment.

Mr. Bryant has published a case in which he performed the subcutaneous section with perfect success, and Dr. Godfrey, of Sonora, has published a case in the *American Journal of Medical Science*, in which he had operated also with success. The disease had lasted ten years, and the patient stated "that she had consulted a dozen of the best physicians in Tennessee, under whose treatment she successively was for a good while, without deriving any benefit from it, and finally they pronounced her incurable."

I have not been able to find in our systematic treatises or journals, any references to the disease beyond those I have noticed thus briefly, and I believe the disease has not hitherto been described by any of our Irish writers, nor has Simpson's operation for it been performed in Dublin, so far as I can learn, except in the following case, in recording which I beg it will be understood I make no claim as to novelty of observation or peculiarity of treatment.

On the 23rd June, 1866, I attended a young lady in her first labour. She had a very long and an unyielding perineum, and when the head came to press on it, there was very considerable delay, though the uterus acted strongly, and I feared there would be laceration, which, however, did not take place. The case was one in which I might now be inclined to adopt the practice suggested by Dr. Beatty in the paper he read before the Obstetrical Society, on rigid perineum, at the beginning of this Session. Convalescence took place without impediment, but when the lady began to move about, she found she suffered great pain in the coccyx. This pain corresponded exactly to the description given by Sir J. Simpson. It was greatest in sitting down and rising up, and it continued all the time she sat. Walking sometimes pained her, but she had no pain when lying or in defecation.

On several occasions I made most careful examinations of the part and surrounding organs. There was no disease to be detected in the uterus,

or its appendages, nor did the rectum present anything abnormal. There was some thickening at the articulation of the coccyx with the sacrum, and pressure here caused great pain, more so than at any other part. I confined this lady to the sofa for sometime when she first complained, and gave iodide of potassium, and applied iodine over the part, but though this was continued as long as her general health would permit, she derived no benefit. I then allowed her to sit up and move about a little, making her use an air-cushion, but this gave no relief. She thought a firm cushion of a horse-shoe shape, and stuffed with hair, was better than the air-cushion, but neither this nor the local use of sedatives, nor tonics, and change of air, were of any real service. At length I determined to suggest the subcutaneous section of the muscles, being influenced to do so, in a great degree, by hearing from Dr. Beatty, in the course of a conversation on the subject, that all the patients he had met having this disease had died of phthisis, and I saw that my patient was daily losing strength and flesh from the constant pain she suffered. When I proposed it, she at once consented, and told me then, for the first time, that her mother, though she recovered ultimately, had suffered from the same disease for many years of her life, and was often obliged to kneel at table instead of sitting down.

On the 30th of March last, I proceeded to perform the operation, assisted by Mr. Maurice Collis. Having congealed the skin over the part with Richardson's apparatus, I introduced a narrow long-bladed tenotome at the point of the coccyx, and passed it on the flat, close to the right side of the bone, to above the part that I had found tender on pressure. I then turned the edge so as to cut from behind forwards, and, keeping close to the bone, divided all the tissues on that side. I now carried it round the apex, cutting all the fibres attached there, and, without taking out the knife, passed it up on the left side, and divided the tissues there in the same way as on the right. Only a few drops of blood escaped through the small aperture in the skin, and I applied a compress and bandage to limit the subcutaneous hemorrhage, which was, notwithstanding, considerable, and was followed by inflammatory hardness and swelling, so that she could not sit, but even before this was gone, she found, greatly to her delight, that all the old pain had disappeared, and she has remained perfectly free from it ever since, and has improved in strength and condition. I may mention, as showing her freedom from pain, that on the 16th of May, she drove for five hours on a common outside car through the County Wicklow, without any inconvenience.—8th June, 1867.

P.S.—Since this paper was read at the Obstetrical Society, I have received a copy of a most valuable work, by Warren, of Boston, entitled "Surgical Observations, with Cases." The author has devoted a section to injuries of the coccyx, and details six cases illustrative of the severe

and long-continued symptoms arising from injury to this bone. Mr. Warren believes these resemble most closely the acute pains which attend periosteal inflammation. "Scarcely an instance," he says, "can be said to have resulted in perfect recovery, and many of them have caused severe local symptoms for some months, and even years, afterwards." In the first case the injury was caused by a fall on the stairs, "the pain and inability to sit lasted more than a year, and the sensitiveness of it continued for ten years after the accident." In the second case, also caused by a fall on the stairs, there was some displacement of the bones, which was adjusted at the time; at the end of six or seven months the patient was able to walk a little about the room with support—"she did not recover from the immediate effects of the accident for one or two years, and now, at the end of eight years, is not able to ascend stairs without suffering." Another of the patients had the coccyx fractured and displaced some years before. "At the time, she was confined about five weeks with very severe symptoms, and never ceased to suffer in the part since." Remarking on these cases, Mr. Warren says Dr. Simpson has described the affection, "and in some obstinate cases, after having tried all remedies in vain, proposed, and practised with success, the girdling of the coccyx by subcutaneous section, just above the diseased part, so as to cut off all nervous communication with it." Mr. Warren does not seem to have performed any operation for the disease himself, and it will be seen from the foregoing he has not correctly apprehended Simpson's operation, or the objects proposed to be attained by it. I may further mention that the lady I operated on continues, now October, 1867, perfectly free from pain.

TRANSACTIONS OF THE COUNTY AND CITY OF CORK MEDICAL AND SURGICAL SOCIETY.*

SESSION 1867.

DR. JOHNSTON, President.

Hemicephalic Infant—Protrusion of the Membranes of the Brain through a Fissure of the Occipital Bone—Supernumerary Fingers and Toes. By JOHN POPHAM, M.A., M.B., Dub. and Cantab.; Physician to the Cork North Infirmary.

I BEG to exhibit to the Society a female infant, with several anomalies of structure. It has arrived at, or about, its full time. Both the body and members appear above the average size, which is partly due to a large

* These reports are supplied by Dr. Purcell, Secretary to the Society.

development of adipose substance. The face, in its lower two-thirds, presents nothing very remarkable; there is no hare-lip, or cleft of the palatine vault; the tongue, however, is uncommonly large, and the frænum linguæ dense and extending to the tip. In the upper third the orbital cavities are completely contracted, and the vault of the skull is depressed, so as to convey to the eye a peculiarly idiotic expression, which is heightened by a red, sacculated tumour three inches long, and over an inch wide, which hangs down from the back of the head in a grotesque fashion, having protruded between the two portions of the occipital bone, which have remained abnormally disunited.

Supernumerary digits exist upon the four extremities, but with some variation. The little finger of the right hand is trifid. At the level of its second joint a smaller one branches off, and a third sprouts from the latter; both the offshoots are small, but the nails are perfectly formed. The remaining fingers of the right hand are natural. On the left hand the little finger again is divided into two complete digits. Thus the excess of development in both hands lies in the same direction, namely, the *little* finger.

Upon each foot there are six toes, all in the same plane, and each toe beautifully regular and proportional.

The genital organs show no defect, the sphincter ani is wanting, the orifice being large and patulous.

I made a dissection of this monstrosity upon the day following its exhibition to the Society. There was nothing very anomalous in the thoracic or abdominal organs, except that the thymus gland was unusually large. The head was then carefully examined. I expected to find an absence of the parietal bones, but on removing the scalp, which was nearly half an inch thick, dense and loaded with fat, the parietal bones came into view, meeting at so obtuse an angle as to seem almost flat; both bones were small, and so completely ossified that the scalpel grated harshly on them. They were so closely knit together, and to the frontal, as to require force to disunite them. The frontal and temporal bones were also small, and the orbital cavities rudimental. The base of the skull had the usual cavities, but somewhat irregular.

The supposed encephalocele was a hernial protrusion of the membranes, and it contained in a pouch a quantity of bloody serum. No traces of brain could be found in it; in fact, it seemed a kind of diverticulum to the membranes, which probably were devised by nature for a brain of the average dimensions. The brain itself was quite undeveloped, each anterior lobe being about the size of a filbert, and the whole cerebral mass not larger than a small hen's egg, and so pulpy and diffuent that its components could not be distinguished. The spine was not examined.

There were some curious features in the parentage of this monstrosity.

The mother had been insane, and was reported to have been so at the period of cohabitation. The father was a man of violent passions, and fond of drink. According to the mother's account he was intoxicated, and used violence with her. He was married, but she was not. The nature of her insanity was religious melancholy. She was quite sane at the time of her labour. No malformation existed in either parent. The child was a first-born, and she felt it moving as far as the last week of gestation. The labour was tedious; the face presented, and the ear was felt by the midwife, Miss Tedford. The child was lifeless when born; the skin showed no syphilitic taint. The mother was not aware, and was not told, of any defects in the child.

Remarks.—In this case we may notice some points of interest—1st. The connexion of the malformation of the brain with the insanity of one parent and the drunkenness of the other; 2ndly. Its association with force. M. Geoffroy St. Hilaire, the elder, held that those monstrosities in whom the cranium remains open, and the brain deficient, are mostly produced by some mechanical violence upon the abdomen of the mother; 3rdly. A co-operating cause may be found in terror at the violence used. Rokitanski favours the opinion that strong emotion influences the growth of the embryo, so that here we had lunacy, inebriety, violence and fright as conjoined causes of cerebral imperfection; 4thly. The law of compensation of St. Hilaire (*loi de balancement*) is not quite sustained in this case as regards the supernumerary digits. By his rule an excess of parts in one direction balances a defect of parts in another. Hence we should suppose that when six toes existed on one foot, there ought to be but four on the other, or a superfluity of manual digits should conditionate a deficiency in the pedal, so as to keep up an equilibrium of formative effort, but none of those compensations took place. Perhaps the overgrowth in the extremities had its correlative undergrowth in the arrest of development in the cerebrum, but the relation seems anomalous between an abortive brain and a luxuriance of parts of a diverse structure. 5thly. The overplus of growth at the periphery and the want at the centre accords with that law in monsters that the *direction* of growth is centripetal. 6thly. The association of an imperfect brain with an undue condensation of scalp, an undue amount of fat in the body, and an undue ossification of the skull bones; diminution being still opposed to preponderance. Perhaps the resistance of the overlying parts checked the growth of brain, and forced the membranes through the fissure of the occipital bone—another anomaly, nature usually leaving the sutures loose, while the occipital portions are united early. Lastly. It is stated by writers that monstrosities rarely occur in first pregnancies. Such was not the case in the present instance. In some families the tendency to anomalies is considerable.—13th February, 1867.

Dr. N. J. HOBART read the two following cases of Traumatic Tetanus, recently treated by him in the North Infirmary :—

CASE I.—Daniel Fitzpatrick, aged forty, a sailor, admitted to the North Infirmary on the afternoon of Wednesday, the 5th December, 1866. On Sunday evening, the 2nd instant, whilst on his passage from Liverpool, he experienced tightness in the chest and a sensation as if the bowels were contracted, together with pain in the back and pole, accompanied with profuse perspiration. Thinking he would get better, he continued to work till three o'clock on the following day, when to these symptoms, which were gradually increasing, was added a stiffness in his arms. On Tuesday the 4th, he was visited by Dr. Callaghan (who was requested to visit him as a case of cholera). Dr. C. purged him freely with calomel and colocynth and black draught, and directed mustard poultices. The symptoms having increased in severity on the following day he was removed to the North Infirmary.

On admission he denied having received any wound, but on examining him carefully, it was discovered that in a fall on board ship some ten or twelve days previously he had nearly torn off the nail of the middle finger of the left hand, and had a clean incised wound on its anterior aspect still unhealed, and which looked deep owing to the thickness of the cuticle. His symptoms on admission are thus described on his card by Mr. Chatterton, the clinical clerk :—There is great rigidity of the muscles, particularly those of the back, chest, and abdomen, as also those of the neck and arms; the jaws are not very firmly fixed; he can protrude the tongue to a slight extent; his voice is low and hoarse; he complains of difficulty in getting rid of a quantity of a viscid secretion from his throat and mouth, and has difficulty occasionally in coughing; the countenance is anxious, but the “risus sardonius” not well marked. He winces sometimes from lancinating pains in the loins, and is suffering from smart tetanic spasms. The bowels have been freely acted on by the medicine; the urine normal in quality and quantity; pulse 92, full and regular.

Four p.m.—Ordered a hot bath immediately, to be gradually raised and kept at 120 for half an hour; and the following draught :—

R. Tinct. opii. min., xl.
 Chloroformi min., xx.
 Pulv. glycyrrhizæ, gr. x.
 Aquæ, ʒi.
 Ft. haust. stat. sumd.

To be followed in two hours by one of half this strength, and repeated every two hours if the spasms are severe.

Ten p.m.—Expresses himself greatly relieved by the bath; has had nearly two hours' sleep, and no violent spasms since. Ordered to have

twenty minims of laudanum and ten minims of chloroform every hour or every two hours. Sherry and strong beef-tea to be supplied freely.

December 6th, ten a.m.—Was tolerably easy, and had occasional sleep up to one a.m., when the spasms became severe, and recurred at shorter intervals, more particularly about seven a.m.; the opisthotonos at times is extreme; greatly annoyed at the difficulty of getting rid of the tenacious secretion from mouth and pharynx.

The chloroform and laudanum draught of yesterday to be repeated, and a tobacco enema to be administered immediately, to be repeated every two or three hours according to symptoms. Chloroform inhalations, which had been occasionally employed during the night, to be administered during spasms, and as far as possible to anticipate them; to be freely plied with beef-tea and wine.

December 6th, four p.m.—Spasms have not been so frequent, and are invariably relieved by the chloroform; there is greater difficulty of swallowing, but the patient says he feels much better.

December 6th, ten p.m.—Continues much about the same state; does not suffer much; however, the difficulty of swallowing is now so great that he refuses to take drinks. Pulse has risen to 110. Ordered to have chloroform inhalations occasionally through the night, to have a tobacco enema at intervals of six hours, and injections of beef-tea and whiskey.

December 7th, ten a.m.—Was watched during the night by Dr. O'Sullivan and Mr. O'Kelly, who administered chloroform each time the tetanic spasm threatened; the inhalation had the effect of prolonging the interval between the spasms from every five minutes to about half an hour, and sometimes longer; however, for the last few hours the chloroform appears to have lost this effect, as the spasms are very frequent, though the patient suffers very little. He is greatly prostrated, the pulse 120, and feeble. Thoracic effusion has been going on for some hours, and he is evidently sinking.

Half-past eleven a.m.—Had telegraphed to Dublin for a supply of nicotine, which just arrived; though no benefit could now be expected from it, half a drop was endermically injected. Almost simultaneously the patient got a severe spasm, and died in a couple of minutes.

Owing to the objections raised by the friends, it was impossible to ascertain the condition of the spinal cord, &c., in this case.

CASE II.—Ellen Deasey, aged fifty, had a molar tooth extracted on the 24th January. Two days afterwards complained of severe pain along spine from occiput to sacrum, and pains in her legs; felt as if she had got a heavy cold. She stated she had "a quantity of phlegm on her chest which she could not get rid of." On the 28th she was seen by Dr. Callaghan; her symptoms had then increased, but she more particularly

complained of pains in her neck and occasional spasms of her legs. As she resisted all Dr. Callaghan's urgent solicitations to go into hospital, her neck was freely leeches and aperient medicines prescribed. On the 30th she consented to go to hospital, and was accordingly admitted to the North Infirmary about three p.m., when, owing to my absence, she was seen by Dr. Shinkwin. On admission she complained of *some* pain in her neck and back, but she said it was nothing compared to the intense pains in her thighs and legs. Trismus was complete; the risus sardonicus well-marked; sterno mastoid muscles rigid; abdominal muscles hard; great tympanitis; bowels not relieved since the 26th; pulse thready—120; respiration quick; no action of intercostals. Ordered scammony and calomel in five-grain doses every four hours, and turpentine and assafetida enema. Fomentations to be applied frequently to the abdomen, thighs, legs, &c.

Ten p.m.—I saw her at this hour; she had had two of the scammony and calomel powders and the enema, without any effect on the bowels; has had some sleep; can now articulate distinctly, but in a shrill tone of voice. She can open her jaws sufficiently to protrude the tongue slightly; says she would be all right if she could get rid of the pains in her thighs. Before leaving the bedside I gave her three-quarters of a drop of nicotin in a little sherry and water, and directed three draughts, each containing a half drop, to be given at intervals from three to four hours, between this and ten on the following morning.

The assafetida and turpentine enema to be repeated in four hours if necessary.

To have strong beef-tea and sherry frequently through the night.

January 31st, 11 a.m.—Had a tolerably quiet night; some occasional spasms and partial opisthotonos, which did not give her much pain; took nicotin regularly, and also the broth and wine. The bowels have not yet been acted on; has got rid of some flatus; abdomen not so tympanitic. Astonishment is expressed by the students at the slight appearance of suffering.

To have immediately three-quarters of a drop of nicotin, to be repeated in three hours.

Six p.m.—Has been easy all day. The jaw is getting so locked that she has begged to be permitted to keep a piece of wood between her teeth, a request which was of course complied with. She has experienced considerable difficulty in swallowing for the past two hours; pulse about 120, but decidedly weaker. Given three-quarters of a drop of nicotin; to have beef-tea injections.

Nine p.m.—Difficulty of swallowing now so great that she refuses to take anything; pulse 130, still more feeble, at the same time expresses herself quite easy. To have beef-tea and wine injections, and the nicotin to be given in half-drop doses in injections every three or four hours, if the spasms become violent.

From this the patient gradually became weaker, until eight o'clock on the following morning, when she expired, retaining her consciousness to the last, and having had but some very trifling spasms through the night.

Considerable difficulty was experienced in making a *post-mortem* examination; however, I succeeded in exposing the cord for about four inches below the medulla oblongata. The membranes were highly vascular; the sheath of the cord was so red that it appeared to have been painted, and the quantity of fluid around it unusually large. On a section being made both the white and grey matter were congested, but more particularly the grey.

Although both these cases terminated fatally, I am satisfied the details will not be without interest to the Society. Were it the practice invariably to publish all cases independent of the result, we would more readily arrive at the relative value of special remedies.

Had these cases been admitted to hospital earlier a fairer opportunity would have been afforded for treatment; but I must confess I have little confidence in the remedies employed as *curatives*; in both, however, the usual sufferings were wonderfully mitigated, and the patients saved an incalculable amount of pain—in itself a great desideratum. As to treating the disease scientifically and successfully, we must wait until more is known of its pathology. The valuable researches of Dr. Lockhart Clarke and others would lead us to hope that much light will be thrown on this subject ere long.

I regret extremely it had completely escaped my memory that Dr. Lockhart Clarke was anxious to receive spinal cords of tetanic patients, until reminded by my friend Dr. Johnston (our esteemed Vice-President). The specimen I had was then too much mutilated. Should any cases occur here again, I trust we will not neglect the opportunity of having the specimens examined by so experienced an observer.—13th February, 1867.

Tumour with Genital Organs Attached. Exhibited by H. M. JONES, M.D., M. Ch.; L.R.C.S.E., &c., &c.; Demonstrator of Anatomy, Queen's College, Cork; Physician Cork City Dispensary.

SIR, I show you this pathological specimen, and a drawing of a complete prolapse of vagina, involving uterus and bladder, which came under my notice in the dissecting room at the Queen's College, Cork.

It occurred in an old subject, and was interesting as having the mucous membrane of the vagina converted into wrinkled integument, tough, and having the appearance of long exposure. I made at the time I saw it a careful examination, and perceived, at its most dependent portion, a very minute aperture, scarcely the size of a pin's head, and into which I passed a small probe. Feeling the tumour externally, I

discerned a small hard central body not much larger than a good sized quill. The appearance of the tumour was such as you see represented in this photograph, from a drawing by Mr. Hazle, of the Queen's



College, Cork. I made an attempt to pass a bent probe into the bladder, rupturing the urethra before I finally succeeded. By a small incision made afterwards higher up, I found that the bladder had descended in front of the uterus and was adherent to it. The latter viscus being extremely small, its cavity was almost obliterated. In the bladder was a quantity of thick yellow turbid urine. I dissected off the mons veneris and labia, preserving the appearance of the tumour as it presented itself, also keeping the Fallopian tubes and ovaries in connexion for exhibition, the left ovary having a cystic growth of small size at its side. It appeared to me to be a specimen worth recording, as exemplifying such complete prolapse of vagina, bladder, and uterus in one tumour. The entire conversion of the mucous membrane of the first of these organs into integument, tough, and forming a protection to the parts contained within, when, added to the fact of the uterus and os being of such a small size, as also the adherence of the bladder to the uterus, this anatomical arrangement, rendering it almost an impossibility to pass a catheter unless perpendicularly downwards, make it interesting. I think it a curious fact that a woman could have survived to such an age with such an abnormal condition of her urinary and genital organs.—*13th February, 1867.*

A Case of Removal of a Portion of Gum-elastic Catheter from the Bladder.

By F. A. PURCELL, M.D., M.R.C.S.; Physician to the Cork Fever Hospital, and Secretary to the Cork Medical Society.

ON the evening of March 2nd I received a telegram from a gentleman

from Charleville, stating—"Will be in Cork at eight o'clock; want to see you very badly." He duly arrived. Being in no pain at the time he told me his story as follows:—That at four o'clock p.m. this afternoon he passed into his bladder a No. 4 gum-elastic probe-pointed catheter, one of Maw's black variety, without the stilette; he suffered at the time owing to over-exercise, partial retention of urine, caused by spasmodic action supervening on two organic strictures existing in the urethra; for these strictures he had been attending me, but as he was obliged to leave town I taught him to pass instruments, generally G. E. bougies, and being nervous of the retention coming on, the last day he happened to be in Cork he bought a probe-pointed gum-elastic No. 4 catheter, one of Maw's French black variety. This one he passed for the first time on the present occasion.

In passing the catheter into the bladder he suffered no more pain than usual. Water flowed out and bladder was emptied. On withdrawing the catheter he experienced great pain whilst it was passing through the stricture; this he did with great care and tenderness, and when it was wholly withdrawn he observed the round bulb portion gone, having parted at the eye. He concluded at once, from the care with which he had withdrawn the catheter, the bulb had remained within.

At five o'clock p.m., an hour after the occurrence, he micturated in a good flow without a check, anxiously looking in the pot for the missing bulb. At 5.45 p.m. he again felt inclination to micturate, when only a few drops had passed. He felt something move on from the bladder to the stricture, which checked the flow. He then introduced a No. 4 G. E. bougie straight into the bladder without difficulty, in order to push back the foreign body and allow the water to flow. Withdrawing the instrument, he again tried but failed to get water off. He now determined to start for Cork by train, having consulted two doctors in Charleville, who recommended him to start. Whilst on the car going to the station he felt most uncomfortable about the stricture; the sensation as of an instrument being in the stricture; this continued until he reached Mallow station at 7 p.m., when the train stopped. Feeling the bladder full and uncomfortable, he made, "for curiosity sake," an effort to pass water, and felt something as if slip out very gently and smoothly to the orifice; at the same time water began to trickle down his leg. The thought struck him that the obstacle had passed out, so he restrained the passing of the water, and got out of the carriage and went to the water-closet of the station. Here not a drop came. Seating himself again in the carriage he felt somewhat more easy, both as regards the sensation in the stricture and as to the fulness of the bladder. He arrived at Blarney at 7.30, made another effort to pass water in the carriage; a little trickled down his leg, but stopped of itself. On going through the tunnel a strong desire to make water seized him, and he

yielded. The water began to flow in its usual easy manner, but when he saw the carriage floor streaming, feeling somewhat ashamed, he checked the flow. On the train's arrival he felt so much relieved that he walked from the station to my house, where he arrived at eight o'clock p.m.

Having relieved his mind by giving me the history of his case, a quarter of an hour after arriving (8.15 p.m.) he desired to make water, and passed into a vessel about a pint, with a fair full stream; but towards the end the flow stopped with a sudden check, and the customary drops did not trickle from the urethra. I made him rest quiet, and did nothing. From the sudden check to the flow I concluded the obstacle was still in the bladder. At 10 p.m. he was unable to void a drop, and feeling unpleasantly full he "begged" of me to interfere. I accordingly introduced a No. 5 G. E. probe-pointed bougie, not inserting it further than just to pass the stricture which exists six inches from the orifice, thinking that if I dilated the stricture the outward pressure of water might force the bulb before it. No water came. I then passed into the bladder a No. 3 G. E. catheter, with its stilette, and emptied the contents. Feels no great uneasiness of any sort since the occurrence at Mallow, and is comfortable. I sent him to bed, and gave him thirty minims of tincture of opium.

March 3rd, Sun. morn.—Slept but little, but this he attributes to the noise of carts passing the house. He got up at 6.30 to micturate, and was unable to void a drop, and then introduced into his bladder a No. 4 G. E. bougie; no water followed, and he returned to bed. I drew off his water with a No. 4 G. E. catheter at 8.30 a.m., much to his relief. He felt sick all the morning; took a cup of tea and a morsel of bread, which the stomach rejected. This I attribute to the opium given at bedtime. Pulse 64.

2 o'clock p.m.—Voided about half a pint, but with a narrowed stream; no check whatever or spasm.

7 o'clock p.m.—Passed a small quantity of water, and states that he experiences a feeling as if something was projected from the bladder as far as the stricture, which stops the flow.

10.30 p.m.—Dr. White kindly remained with him, as I had to leave town. In Dr. White's presence I determine to explore the urethra. I introduce my finger into the anus, and for as far back as I can go I can discover nothing, nor from that forward. I introduce simply through the stricture, in order to dilate a No. 4 silver catheter. He feels, after all this, an urgent desire to empty the bladder, and tries without success; and implores of me to draw off his water, which I do with a No. 3 G. E. catheter. I now advise bed, and give him calomel gr. 5, with a grain of powdered opium.

March 4, 8 a.m.—Slept tolerably well; pulse 70; tongue clean; no

uneasy pain; unable to make water. I draw off about six ounces of heavy and deep-coloured urine with No. 5 G. E. catheter. I give him a large dose of the Eff's citrate of magnesia.

Dr. Gregg came to see him with me to my study. We determine to gradually dilate the stricture by means of gum-elastic catheters, allowing them to remain in twenty-four hours at a time. I commence by introducing a No. 5, which we secure by tying in; and give him the following mixture:—

Liquoris potassæ, dr. 2.
Tinct. hyoseyami, dr. 4.
Sp. ætheris chlorici, dr. 1.
Decoct. pareira brava ad oz. 8. M.

An ounce every third hour.

March 5, 8 a.m.—Slept fairly; pulse 70. The No. 5 catheter held in till about five o'clock this morning, about which time it passed out. Voids water with ease, with the instrument out. I again introduce the same catheter.

2 p.m.—I withdraw No. 5 and pass in No. 6.

March 6, 8 a.m.—Slept well. The catheter remained in till morning, but slipped out when he was asleep. I introduce the same, which passes in with ease.

2 p.m.—Took out No. 6, intending to introduce the next number, but first desire him to pump, to try if the pressure of water may force out the obstacle before it. To our great delight and satisfaction, following a few drops of water, without any perceptible sensation, the foreign body passes into the vessel, the bulb portion foremost, perfectly clean as when introduced, having been in 89 hours.

It is, as I said above, the bulb from the eye out, that is, including half of the eye of a No. 4 Maw's French black gum-elastic probe-pointed catheter, being three-quarters of an inch long. I beg to present it to you for your inspection, as also a duplicate of the same lot and number. What strikes me most about this catheter is that the eye is placed at the very thinnest and most slender portion of the catheter, a most objectionable class of instrument, and of a most brittle description.

This class of case is of no common occurrence, complicated as it was with two existing organic strictures, one at six inches, the second about an inch from the first. In *Guy's Hospital Reports* of 1844, page 176, a case is reported in which Mr. Cooper extracted a piece of a bougie coated with phosphates by the operation as for lithotomy. The patient died ten days after, probably from the diseased state of his kidneys.

In *Guy's Hospital Reports* for 1840 a case is reported by Mr. Norris. Death resulted, where the man had been in the habit for many months of relieving himself by introducing a piece of straw to draw off the water. One day, however, he unfortunately either let the straw slip into the

urethra, or had broken it off in the canal. This happened about a month before Mr. Norris saw him. In the *post-mortem*, immediately behind the prostate, calculous concretions, all joined together by the straw, were found.

Sir Henry Thompson, Surgeon to University College Hospital, in his work on *Practical Lithotomy and Lithotrixy*, at page 256, gives—

CASE 10.—A mass of sealing wax in the bladder for six months which he removed (covered with phosphatic deposits) by the operation for median lithotomy. The patient having suffered for some little time with slight symptoms of stricture, he made a bougie of sealing wax and passed it into the urethra. On withdrawing it he discovered that a portion, about three inches long, had broken off and remained within. Sir H. Thompson says :—"My first impression was that this, being sealing-wax, might be easily crushed. I took the precaution, however, first to try the effect of a lithotrite upon a mass of sealing-wax placed in a basin of hot water at a temperature of 100° Fahrenheit, and discovered that it was no longer friable; the lithotrite, instead of breaking it, merely kneaded it, and became dangerously clogged. I then decided to cut him by the median method."—*March 27th, 1867.*

Snake Bite.—The Secretary read the following communication from DR. FRANCIS D. BULLEN, Visiting Surgeon to the Warwick Hospital, Queensland :—

October 9, 1866.—I was called on to go to a man bitten by a snake in New South Wales. Losing no time, I mounted my horse, taking with me some strong ammonia, powdered ipecacuanha, and some surgical instruments. On arriving at Accasia Creek I there found a powerful young man named George Campbell, aged twenty-six, five or six men holding him down, when tetanic-like spasms seized him, and then walking him about, and beating him to prevent him falling asleep. His pulse was feeble and slow; appearance ghastly pale; body clammy. When allowed to remain quiet for a few minutes he became comatose. I administered strong doses of ammonia, and rubbed the wound with ipecacuanha; all present said it was of no use, that I had come too late to save him. After the second dose of the ammonia he vomited, and in ten minutes rallied, and told me that as he was putting down a slip rail a large brown snake suddenly attacked and bit him in the shin. He at once tied his belt tightly around his leg below the knee (and above the bite), and jumping on a bare-backed horse, rode to the nearest habitation, where they scarified the wound, gave him some brandy, and sent for medical aid at once, twenty-three miles distant. The Blacks sucked the flesh about the wound, drawing the blood in a wonderful manner, without breaking the skin (better than any cupping glass I ever saw). The inclination for sleep continuing I administered more ammonia,

loosened the belt and rope that had been round the leg, and bandaged it. Ordered him not to be allowed to go to sleep for some hours, and to go on with the ammonia. Next morning I found him lively, but weak. Ordered the wound to be poulticed, and had him removed to the Warwick Hospital, where he remained under my care for three weeks with obscure symptoms of periostitis of the tibia. The wound not yielding to treatment, the weather being very warm, gradually his health was giving way, and tetanic-like spasms in the leg attacked him every evening about sundown. Morphia and quinine had no effect on him, so I ordered him to leave the hospital for change of air. Blistering seemed to relieve him most. After leaving the hospital he seemed to get stronger, but the spasms becoming intolerable I called a consultation, and on December 15th, with Dr. Margett's assistance, put him under chloroform, and made an incision of four inches along the anterior portion of the tibia, intending to trephine the bone where the fang injured it, but on closer examination I found the bone extensively diseased, and removed a large sequestrum $3\frac{3}{4}$ inches long, showing markedly the spot where the fang struck it. The wound has now healed rapidly, his health is quite restored, eats and sleeps well, no pain or uneasiness. The man had been bitten about five and a-half hours before I saw him. I only took two hours and twenty minutes to reach him. The symptoms were:—Great nervous excitement, lancinating pain, beginning almost immediately after the bite; then great prostration, and tendency to coma.

Ammonia and ipecacuanha seem to be antidotes; stimulants are recommended; brandy and ammonia combined are good, but the latter is the best. It is my intention to study the various effects more closely in the next case that I meet. There are not many recoveries after the bite of the brown snake during the coupling season, when they are most dangerous and venomous; death generally occurs in from half an hour to six hours, and always when sleep or rather coma occurs.—*April 10, 1867.*

On Amputation through the Knee-joint. By F. M. LUTHER, M.D.,
M.R.C.S. Eng.

ON the 15th January, 1866, I attended T. C., aged fifty-six, of Belleville, a labourer, who had been injured some hours before while felling a tree. I found he had sustained a bad compound fracture of the tibia, with extensive lacerated wounds of the leg; the bone was sticking out of the wound, and was broken in more places than one. The skin was also stripped off great part of the limb. I told the man, and his friends, that amputation should be resorted to, but they would not hear of it; I therefore took my leave. On the 26th I was sent for again, and told

that he had been taken to a bone-setter in Dungarvan, who removed a piece of bone and applied poultices, but who sent the man home again, after a week's treatment, to have his wounds healed. Canovan was now most anxious to have amputation performed. I found him tolerably well able to bear it, though there was some degree of fever and diarrhea. I agreed to perform the operation next day, and arranged to have the assistance of Dr. Currey, of Lismore. That gentleman met me on the 27th, and having inspected the leg we determined to amputate through the knee-joint, as the wounds extended to within an inch or two of the articulation, and the calf was swollen from inflammation. Dr. Currey was more inclined for amputating above the knee, but yielded to my wish to perform it through the joint. Having had the man secured on a table, and put under the influence of chloroform, I proceeded to make a long anterior skin flap, from which, as it was reflected back, I dissected off the patella. Laying open the joint, I divided the ligaments, and cut a short thick flap from without inwards of the calf. The tourniquet commanded the artery perfectly, as the man was very thin and his muscles relaxed. It had been applied over Hunter's canal. Dr. Currey tied the popliteal, and the loss of blood by the operation was very trifling. I should say that I first sawed through the condyles and removed an angular portion at either side. Having waited till oozing had ceased we connected the flaps by suture and wrapped wet lint over the stump, merely retained by a single turn of the roller. As a precautionary measure against hemorrhage the tourniquet was left on loosely, with instructions that it should be tightened, if necessary, until I could see the patient. The man was given a little laudanum in half a glass of wine. Next day, on removing the lint, which had been kept constantly wet, I found a good deal of swelling and a grey border of slough on the skin flap, nearly half an inch deep. The skin flap was made very long to allow for retraction. I took off the tourniquet, which had got to be rather tight from the swelling, cut the sutures to relieve tension, and applied lint dipped in a tepid solution of Cond's disinfectant.

29th.—Constitutional symptoms good, but sloughing gradually extending; poultice of carrots and oatmeal; broth.

30th.—Grey line of slough still advancing.

31st.—Wine; opium; beef-tea; poultice as before.

The slough separated about the 5th February. There was then but little appearance of granulation upon the bone, a considerable portion of which was left exposed. However, it gradually became pink, and the granulations blended with those of the skin. It seemed very unpromising for some months, but eventually cicatrized fairly. During the autumn he fell one day and stripped the stump again.

I have not yet permitted him to use an artificial leg, which he is most

anxious to do, but I mean to allow him to essay it shortly. Probably what is called a bucket leg will be the kind best suited to his case. Considering the great mortality which attended this operation as performed by the French in the Crimea, and lately in the American civil war (the success of the latter being, however, infinitely greater than that of the former), and the rough treatment Canovan experienced in being brought to Dungarvan and treated by a bone-setter, I suppose I ought to be satisfied with the result of my operation, but I was greatly disappointed that the skin flap should slough. However, on reflection, I think this will be very likely to occur in elderly people, and that therefore the operation is unsuited for them, or if it be performed the flap intended to cover the bone should be cut from the calf. I regret having left on the tourniquet, but it was quite loose and could not, I thought, compress the stump injuriously. I think the operation a very good one where the subject is young.

The angle at which I sawed the condyles I think also contributed to strangle the vessels of the skin-flap. The man enjoys very good health, but suffers from ennui, and is anxious to be at work. As the cicatrix is firm and hard, except in one spot, which is not bigger than the top of a writing-pen, I trust he can soon use an artificial leg.—
April 10th, 1867.

A Case of Aneurism and Rupture of the Ascending Aorta, with Pathological Specimen. By Surgeon-Major Dr. JOHNSTON, Medical Officer, Cork District Military Prison.

THE subject of this case was a soldier thirty-six years of age, and of moderately temperate habits. He had served in the army for thirteen years, and performed a good deal of hard work during the Crimean War.

About four years ago he suffered from an attack of primary syphilis, for which mercury in moderate quantity was administered; this was succeeded by repeated attacks of secondary and tertiary symptoms, and at the time of his death he had nodes on the tibia and frontal bone.

For some months prior to his death he was in indifferent health, although not under treatment in hospital. He was pale and anemic, frequently complained of giddiness and frontal headache, and was subject to dyspeptic attacks.

On the 17th of March, 1866, he was in the act of wheeling a barrowful of coals, when he suddenly fell down dead in the barrack square.

Autopsy.—On raising the sternum and costal cartilages the pericardium was found distended, with about 10 oz. of semi-coagulated blood. The heart was of normal size, and its surface covered with a thick layer of fat. This was deposited in greatest quantity at its base, decreased in

amount towards its apex, and formed nearly one-half the thickness of the ventricular walls.

No valvular disease was present.

A fusiform dilatation of about an inch in extent had taken place in the ascending aorta, and this part of the artery was irregularly thickened by patches of atheromatous deposit. The internal coat of this portion of the artery was somewhat softened, and separated from the middle coat by this abnormal deposit, which was of a yellowish-white colour, soft, and easily broken down by slight pressure.

On slitting up the aorta a small rounded opening was found a short distance above the anterior semilunar valve. This opening was the commencement of a canal which led downwards for about half an inch between the atheromatous patches and the middle coat of the artery, and opened by a minute aperture into the pericardium, and caused death by sudden extravasation of blood.

There was no degeneration of the coats of the cerebral arteries, and all the important viscera of the body were free from disease.

This case possesses considerable pathological and practical interest, as it bears on the connexion supposed by several of the older writers, including Severinus, Lancisi, Mogagni, and others, to exist between syphilis and atheromatous deposition between the coats of arteries—a connexion more recently brought before the profession by Professor Aitken and Staff Surgeon-Major Dr. Davidson—the former in his valuable work on the “Science and Practice of Medicine,” and the latter in the Army Medical Reports for 1863.

Dr. Aitken states that he examined 26 bodies affected with syphilitic disease, and found 17 labouring under structural changes in the thoracic aorta, which he believes were dependent on syphilitic contamination of the blood. These cases are given in detail by Dr. Davidson in the admirable paper alluded to, and clearly demonstrate the relations between these diseases as cause and effect. My own experience corroborates this opinion, as several cases have recently come under my immediate observation, where comparatively young soldiers, the subjects of syphilis, died suddenly from aneurism, depending on that atheromatous degeneration of the arterial system, which in so many instances predisposes to, and causes the formation of, aneurismal tumours.

In the *post-mortem* room it is unusual to find atheroma of the arterial system under forty or fifty years of age, unless in cases previously affected with syphilis; and it is still more unusual to find comparatively young persons in civil life die suddenly from rupture of the aorta where no history of syphilitic contamination of the blood exists.

I entertain no doubt that the syphilitic poison exerts such a deterioration of the blood in the system as not only to predispose to, but to cause the deposition of, that peculiar secretion between the internal and middle

coats of the artery which constitutes atheroma, which, according to Hasse, is never transformed into cartilage, nor is deposited *on* the internal coats of arteries. The case published by Dr. Lewer of the R.A., in the Army Medical Reports for 1862, is another instance of the intimate connexion existing between these morbid conditions. If the opinion that aortic degeneration is frequently a consequence of syphilitic deterioration of the blood be found to be correct, an important practical suggestion is given to us, which we should not neglect when we examine patients labouring under any form of syphilitic disease. In such cases we should invariably examine minutely the condition of the aorta, from its origin to its termination, and ascertain its immunity from disease or the contrary, as our prognosis and treatment of the disease for which we are consulted will depend on the presence or absence of arterial disease.

To all practitioners, but especially to army surgeons, the co-existence of these diseases is of practical importance, as the early detection of an aneurismal tumour of the aorta, by careful stethoscopic examination, which may be effected in many instances long antecedent to its pressure becoming a source of discomfort, will enable the surgeon to place his patient in the most favourable circumstances for the prolongation of life, if not for the cure of the disease.

Another point of interest is observed in this case. It may be seen that the heart is covered with a layer of fat placed between its serous covering and muscular structure. This deposition is confined to the external surface of the heart, forming the first stage of fatty degeneration of this organ, but does not appear to have become interposed between, or to have caused absorption of its muscular fibres.

Neither hypertrophy nor valvular disease occurred in this case, although, owing to the elasticity and contractility of the aorta being impaired by the morbid deposition between its internal and middle coats, greater force was required by the left ventricle to propel the blood throughout the system. Usually, as is well known, when any, even slight, impediment to the blood-current through the aorta takes place, the left side of the heart becomes more or less hypertrophied, and it acquires greater propelling force.

Now, as it is evident that hypertrophy has not occurred in this heart, can this exception to the general law be satisfactorily accounted for by the supposition that the super-imposed layer of fat on the heart surface caused such an amount of deterioration of the muscular fibres as to render them incapable of increased development?

We must, I think, adopt this view, or suppose that the non-contractile and inelastic aorta presented no abnormal impediment to the arterial current.

That the former explanation is the more probable may be inferred from the fact that this patient, for some months prior to his death, was subject

to attacks of giddiness, evidencing a languid circulation, and that the brain at times was insufficiently supplied with arterial blood.—*25th April.*

Abnormal Growth of Bone. By DR. LAMPREY, 67th Regiment.

OF the numerous cases of diseased bone of every variety of form, noticed among the Chinese who attended the hospital at Tien Tsin, established by the British army of occupation for the treatment of poor Chinese, the case represented in the photograph was the most singular.



It was a case of elongation of the tibia and fibula of the left leg. The subject of it was a lad about seventeen years of age. For the last two years previously he had observed this leg to be growing longer than the other; and at the time the photograph was taken there was a difference of fully six inches between the length of the two legs, so that he walked with the greatest awkwardness. The leg was somewhat attenuated, and in the front part of the middle of it there was a large open ulcer resembling an ordinary varicose one. The account the lad gave of it was that he could not attribute it to any injury—that it, in short, came on of itself, and he was afraid that it would continue to grow longer, as its progress of late was not less rapid than before; that the ulcer appeared shortly after the leg began to grow.

The width of the tibia did not appear to be altered, though the fibula felt so thin that the idea of its being drawn out suggested itself. No indications of dead bone or sinus could be detected by the probe, though it was rough and irregular on its surface beneath the ulcer, and hollowed out when the surface was ulcerated. The discharge was very considerable.

He could walk and stand without causing pain in the limb, and the lad's appearance did not indicate much unhealthiness.

A short time subsequent to this case another lad, about fifteen years of age, was brought to me with a small ulcer just below the anterior prominence of the upper part of the tibia. It had originated in a small abscess, and continued to discharge for some months. There was a prominence of the granulations indicative of diseased bone, and on introducing a probe in the centre of this it grated against a rough surface.

The father of the lad was very anxious about him, and expressed his fears that he might become like the preceding case, which he had seen. Finding nothing would make any improvement, it was proposed to remove a portion of the bone under the ulcer with a trephine. This was readily assented to, and it was done accordingly. The bone, to a depth of one-eighth of an inch from the surface was removed. It was found that some enlargement of the lacunæ gave a cancellated appearance to what should have been more compact structure, but no sequestrum was found. The lad was apparently in excellent health, and after the operation the wound soon took on a healthy appearance. I was unable to learn the final result of this case, in consequence of the removal of the military forces from Tien Tsin to Shanghai.--25th April.

Case of Bright's Disease, with Hypertrophy of Heart, in combination with Atheroma of the Aorta, and Semilunar Valve Disease, in a Syphilitic Subject, with Pathological Specimens. By Surgeon-Major Dr. JOHNSTON, Medical Officer Cork District Military Prison.

A SOLDIER, forty years of age, and twenty years' service, was admitted into the Cork Garrison Hospital on the night of the 24th of April, 1866, having been discharged a few weeks previously from his regimental hospital, where he had been under treatment for chronic bronchitis.

He suffered from rheumatic and syphilitic attacks four years ago, and some weeks prior to his last admission had been invalided for Bright's disease, and the debility consequent on long-continued syphilitic disease.

For many years this patient was very intemperate in his habits, but had given up drinking to excess for the last eighteen months.

On admission he was extremely feeble; he spoke incoherently, and gave a very confused report of his illness; he passed his stools involuntarily; the surface of his body was cold, his respiration hurried, and loud, harsh, bronchial râles were audible over the entire chest. The heart's action was rapid and strong; an indistinct "bruit" accompanied both sounds, and the pulse at the wrist was rapid and easily compressed. His cough was frequent, and accompanied by expectoration

of white frothy mucus; his urine was scanty, of low specific gravity, and loaded with albumen.

Beef-tea and brandy were given in small and frequently-repeated quantities; heat was applied to his extremities, and a large sinapism to his chest.

Under this treatment he improved in a few hours; but about noon the following day he was suddenly seized with a convulsive fit, which passed off after a few minutes' duration.

A blister was applied to his chest, and a stimulating expectorant mixture of carb. ammonia, vin ipecac, tinct. scillæ, and decoct. senagæ given frequently.

No material change occurred in his condition until eleven o'clock a.m., on the 29th, when he became speechless, but continued partially conscious for two hours, and died suddenly in a convulsive fit, six days after his admission into hospital.

Autopsy eighteen hours after Death.—Muscular system attenuated; cicatrices of buboes in both groins, and of ulcers on the glans penis. Frænum destroyed by ulceration. The anterior surface of lower third of right tibia was rough and enlarged, and there was no œdema of lower extremities.

The brain was healthy in every respect; not the slightest trace of inflammatory action apparent in the membranes. About 4 oz. of transparent serum were found in the sac of the arachnoid; none in the ventricles.

Both lungs were healthy anteriorly; posteriorly they were congested, of dark colour, somewhat carnified in appearance and consistence, but were still crepitant. Both were intimately adherent to the parietes of the chest posteriorly and laterally, the connecting bands being broad and strong—the result of an old pleuritic attack, probably combined with pneumonia, from which the lungs had not completely recovered.

The mucous membrane lining the trachea and the bronchial tubes was thickened, and of a dark red colour, and the smaller branches of the latter were filled with a frothy muco-serous secretion of a reddish colour. No tubercular deposition was found in any part of the lungs.

The heart was greatly hypertrophied; the wall of the left ventricle was an inch in thickness, its carneæ columnæ very much enlarged, and the cavity of the ventricle somewhat diminished in size, with a small portion of the arch of the aorta attached; it weighed 25 oz. The aortic opening was slightly contracted and rough, and the ascending portion of the arch was considerably dilated. The valves of the aorta were thickened, closed imperfectly, and allowed regurgitation into the left ventricle. The right auricle and ventricle were dilated, but the tricuspid and sigmoid valves were quite healthy.

There were numerous patches of atheromatous deposit between the

internal and middle coats of the aorta throughout its entire extent, and were continued for a short distance into the common iliac.

The liver was slightly enlarged, but healthy in structure. The spleen was of normal size, but extremely soft and friable, and weighed 6 oz. The kidneys were slightly contracted in size—the left more so than the right—and were well marked specimens of granular degeneration of these organs; the right weighed $4\frac{1}{4}$ oz., and the left 3 oz. The capsules were thickened and easily torn off the cortical structure. This had a mottled appearance, and was rough to the touch, in consequence of the copious albumino-fibroid deposition on its surface. On making a section of each kidney from its convex edge to its hilus, this deposit was found to be of firm consistence, of a whitish-yellow colour, and penetrated in considerable quantity between the tubular cones, compressing and nearly obliterating them altogether at some points.

On the anterior surface of the right kidney there was a small cyst, which, when opened, contained a thin whitish fluid in a smooth dense membrane embedded in, and closely adherent to, the substance of the kidney. A similar, but much larger cyst, was situated close to the upper part of the hilus, and was left unopened for the inspection of members.

None of the large serous sacs contained fluid, nor was there any effusion into the cellular tissue of the extremities.

The history of this case, taken in connexion with the pathological changes apparent in the morbid specimens before the Society, affords another instance of the relation which frequently exists between syphilitic contamination of the blood and the atheromatous deposition between the coats of the aorta, which so often, at least in military life, predisposes to the formation of aortic aneurism. This subject I ventured to bring under the consideration of the Society at our last meeting, in consequence of its assumed practical bearing on the treatment of syphilitic and aneurismal disease.

A marked discrepancy was found to exist between the force of the cardiac action and the character of the pulse at the wrist, the former being comparatively strong, the latter feeble and easily compressed. This condition was owing, probably, to the combined influence of narrowing of the aortic orifice, imperfect semilunar valves, and the rigid inelastic condition of the aorta dependent on the extensive deposition of atheroma between its coats throughout its entire extent, and exemplifies the necessity of examining the volume, strength, and rapidity of the blood-current in the radial artery by digital pressure, as well as the force and frequency of the heart's action by the stethoscope, before we can accurately ascertain the character of the circulation, and through it the vital powers of the patient.

When we take into consideration the existence of long-continued disease of the kidneys in this case, and that the secreting portion has

been almost obliterated by the albuminoid product, we can readily account for the greatly diminished quantity of urine secreted; the impaired mental condition of the patient on admission; the occurrence of the convulsive fit the day following; and the supervention of partial coma, as these phenomena constitute the most frequent precursors of death from uremic poisoning in fatal cases of the chronic form of Bright's disease.—*May 9, 1866.*

Case of Fever. By Dr. W. JACKSON CUMMINS, &c., &c.

Few subjects are more difficult than the study of fever, as its ever-varying character and type render all attempts at generalization more or less imperfect, and make each case met at the bedside a study in itself.

The question of the identity or diversity of typhus and typhoid has been much debated, and is not yet quite settled, while a new question has arisen as to whether, when the symptoms of both diseases are present during the course of fever, they arise from the same cause, or from the co-existence of two poisons in the system; whether, also, when the symptoms of typhoid occur during convalescence from typhus, or *vice versa*, the last attack should be looked upon as a relapse, or as the development of a distinct disease, the poison of which had lain dormant during the first attack.

An interesting specimen was exhibited at the Pathological Society of Dublin last session by Dr. H. Kennedy, taken from a patient who presented, he says, "three distinct stages of fever. During the first eleven days the symptoms were those of typhus; in the second stage, lasting seven days, enteric fever was present, with the characteristic spots; while the third, lasting nineteen days, was marked by a copious rash, and all the symptoms of typhus." The morbid pathology was that of enteric fever.

Dr. Duncan also read a case before the Medical Society of the College of Physicians, in which, with an ambiguous rash, and complete absence of ileo-cecal tenderness and diarrhea, in a case which was only a week recovered from typhus, two patches were found after death, in which Peyer's glands had sloughed away, leaving the muscular coat underneath smooth and bare.

The following case, although unmarked by eruption, has some bearing upon these questions, and therefore I shall read detailed notes of it, in order to provoke the discussion of an important question, and elicit the opinion of the Society.

Miss —, aged twenty-five, had been feeling poorly for some weeks, but passed through her catamenial period naturally about a fortnight before the 21st of December, when she became feverish, and had to take

to her bed on the 23rd, suffering from cough, dyspnea, and bilious vomiting, with some headache. These symptoms lasted until the 28th, when I was sent for, but not being at hand, Dr. Callaghan was called in and prescribed for her.

On the following day I saw her, with Drs. Callaghan and O'Connor. She was then suffering much from dyspnea and dry cough, with physical signs similar to those of asthma; skin cool; pulse 80; tongue covered with a thick brown moist fur; thirst; constant bilious vomiting; no abdominal nor hepatic tenderness, fulness, nor pain; bowels confined for two days; urine scanty, and high coloured, with red deposit; some headache; insomnia for several nights; much nervous excitement of a hysterical character, and a firm conviction on her mind that she is going to die. Two pills, containing blue pill, colocynth, and henbane were prescribed, and a mucilaginous and diluent diet.

31st (11th day). — Spent a good night; bowels have been well opened; vomiting has almost ceased; pulse 80; skin cool, but tongue is still much furred, and the asthmatic symptoms, though relieved, still continue.

She was ordered a sinapism to chest, and three grains of blue pill, with half a grain of extract of stramonium, at bed-time; milk and soda water diet.

January 1st (12th day).—Spent a good day and night, but appears flushed; pulse 100; skin rather hot; tongue much less furred. The chief complaint is of a peculiar sort of sour taste in the mouth which is very distressing; bowels natural.

2nd (13th day).—Vomiting has returned, and pulse has risen to 112. There is a bright flush on each cheek, and the conjunctivæ are whiter and brighter than natural. The temperature of the body is high. The sour taste in mouth is still her chief complaint. The tongue is now covered with a thin white moist coat. There is no abdominal tenderness nor diarrhea. Headache much complained of. She did not sleep, and was delirious during the night. About noon the bowels suddenly acted violently, the discharge being principally fluid blood of a horribly fetid odour. Again and again a similar discharge occurred, each one being more purely sanguineous than the last, until she had lost some pints of blood.

When we saw her in the afternoon she was blanched and extremely feeble, but there was no decided tenderness over any part of abdomen; no tympanitis; no gurgling, at least as far as could be ascertained from the very cautious examination which dread of increasing hemorrhage permitted us to make.

Gallic acid, with sulphuric acid, were prescribed, and an enema of acetate of lead; five grains each of hyd. c. creta and Dover's powder at bed-time; bladders of ice to the ileo-cecal region; iced drinks and lumps

of ice to be swallowed. During the night, as the stomach was very irritable and rejected the acids, she was given three doses, containing ten drops each of turpentine, which were retained. Notwithstanding all these means the hemorrhage continued during the night, and the following morning (14th day) we found her very anemic and feeble. Pulse weak, small, and regular—120. She lay in one position, unable to move or speak; breathing still asthmatic; tongue white and moist; more than a pint of urine was drawn off by catheter; two grains of acetate of lead and a quarter grain of opium were prescribed every third hour; eggs and port wine *ad libitum*.

Afternoon.—Hemorrhage has ceased, and she bears nourishment well; urine drawn off.

January 3rd (15th day).—Spent a good night, and appears better and stronger; no hemorrhage nor diarrhea since; tongue moist and cleaner; has passed urine; she has taken five raw eggs and half a bottle of port wine since yesterday morning, and borne them well. Omit all medicine and eggs; reduce the quantity of wine; milk and rice water diet.

Afternoon.—Reaction has set in; pulse 120, jerking; skin hot; delirium; urine drawn off.

January 4th (16th day).—No return of hemorrhage; reaction continues violent; was delirious during the night; slept little; complains of headache; dyspnea has increased; pulse 120; no vomiting; tongue cleaner and moist. Omit wine.

January 5th (17th day).—Pulse 120, jerking; skin hot. There have been no maculæ of any kind. A dark-coloured formed fetal discharge has been passed. To have small doses of nitro-muriatic acid, and five grains each of hyd. c. creta, and extract of hyosciamus at bed-time.

January 6th (18th day).—Delirium has been of a more violent character; tongue whitish and very dry; one cheek more flushed; breathing rapid and asthmatic; passes urine involuntarily; much tremor of hands, and some muttering; can be roused to consciousness, and then readily protrudes tongue, which trembles much. Pulse has a sharp jerking character; 120. To take 3vi. of wine every four hours, and a wine-glassful of beef-tea between each dose. To take half an ounce of castor oil and have turpentine applied to chest. Omit the acid.

Evening.—So much debility was present that wine had to be increased to 3ii. every fourth hour.

7th (19th day).—Very delirious; no sleep; skin hot and dry; tongue dry, brown, and furred; breathing rapid, and accompanied all through chest with sibilant râles. Pulse 124; much tremor of hands and tongue, with great debility; urine and feces passed involuntarily, the latter of a lighter colour than before.

Evening.—Tongue brown, dry, tremulous, and retracted; skin hot and dry; pulse 136; some subsultus. To have three grains of hyd. c. creta and five grains of nitre at bed-time.

8th (20th day).—Spent a sleepless, delirious night; much sordes on teeth and lips; subsultus has increased, and debility is excessive. To have ʒi. of wine every hour, and ʒii. of beef-tea every second hour; blister to occiput and nape.

Evening.—Had two convulsions during the day, and debility was so extreme that she required two or three doses of brandy. Pulse varies from 126 to 136. Half a pint of turbid ammoniacal urine was drawn off, and feet and loins fomented with mustard. To have wine as before, brandy when necessary, and strap blisters all over the head.

9th (21st day).—All the bad symptoms continued to increase until morning, when a copious warm perspiration appeared, and she fell into a semi-comatose state; the subsultus entirely subsided, and her friends thought that she had entered upon a favourable crisis, and very properly reduced the quantity of stimulants. At our visit we found her semi-comatose, tongue still thickly furred with quantities of sordes, but now moist; skin hot and perspiring: extremities warm; pulse 148, hard and jerking; respiration 52; blisters have risen well on head and neck. A few ounces of urine were drawn off, and wine continued in reduced quantity, but coma gradually deepened; pulse rose to 160; respiration became more rapid, and she gradually sunk, retaining the heat of body and extremities to the end.

There were three groups of phenomena in this case, the first of which may be called nervous, marked by bilious vomiting and spasmodic asthma (both probably caused by the action of fever poison on the pneumo-gastric nerve), nervous excitement, cool skin, and quiet pulse. Her general appearance during this time was not that of typhus, as the dusky heavy countenance of that disease was quite absent, while the clear eye and bright hectic flush of the cheeks betokened rather the advent of the abdominal lesion which occupied the mid period of the fever. The third group of symptoms were unmistakably those of typhus ushering in the crisis of that disease on the 21st day.

It seems to have been a mixed, or, as Dr. Hudson denominates it, a “hybrid” case of fever; for, although so many of the symptoms of typhoid were absent, it certainly presented some of the characteristics of that disease; and it may be stated that two cases of enteric fever occurred about the same time in the locality. The absence of eruption of any kind makes the case very obscure, but we know that both typhus and typhoid may exist without maculæ of any kind.

The doctrine of Hunter, that no two morbid poisons can exist at the same time within the system, influences the minds of many, even to the present day; but the observations of Dr. Murchison and others have proved this opinion to be incorrect, for it has been shown that measles, typhoid, and typhus, may co-exist; and I have myself noted a case where a patient hardly convalescent from scarlatina was vaccinated too late to

prevent contagion from small-pox, the vaccine vesicle and variolous eruption appearing simultaneously, affording a probability that the scarlatina, the vaccini, and the variolous poisons had been in his system at the same time.

Dr. Aitkin, who in the first edition of his classical work, expressed himself in favour of the identity of typhus and typhoid fever, brings forward, in his second edition, the mass of evidence to the contrary, which had meantime made him a convert to the now more generally received opinion that they differ both in their etiology and symptomatology. Dr. H. Kennedy, on the other hand, who was "one of the first to recognize the difference between the typhoid of Paris and our typhus," has, within the last six or seven years, written three papers to prove that "the two fevers known as typhus and typhoid are the result of a single poison; while the distinguished President of the Medical Society of the King and Queen's College of Physicians (Dr. Stokes), when commenting on the last of these papers, expresses himself in the following manner:—"Without denying that a well-marked case of typhus differs from an equally well-marked example of typhoid, I confess that I have long inclined to opinions similar to those of Dr. Kennedy, as opposed to the views of some of the London and American observers, the difference and conditions of receptivity may account for one man getting typhus and another typhoid from the same poison; and it is often seen in our hospitals that when a whole family are together in the wards, every variety of fever may be seen among them. It is more than *probable that the one exciting cause* affected all.

"Dr. Kennedy has shown what all must admit, that enteric symptoms may exist with a petechial rash; and though I am not here to advocate or condemn his views, it will be admitted that they deserve the most grave consideration."

Dr. Hudson, in an appendix to his valuable work on the *Study of Fever*, which has lately appeared, brings his vast experience and close reasoning to bear on the arguments of Dr. Kennedy, answering each one in detail. Nevertheless, I cannot help thinking that if two poisons are always in existence in mixed cases of typhoid and typhus, they are poisons which can pull together more harmoniously, and exist together less exceptionally, than scarlatina, measles, or variola can with typhoid, typhus, or with each other.

A Contribution to the Pathological Anatomy of the Ear. By M. V. ODENIUS Translated from *Medicinskt Archiv*, Band III., No. 4. Stockholm, 1866, by WILLIAM DANIEL MOORE, M.D., Dub. et Cantab.; M.R.I.A.; Honorary Fellow of the Swedish Society of Physicians, of the Norwegian Medical Society, and of the Royal Medical Society of Copenhagen; Secretary for Sweden, Denmark, and Norway, to the Epidemiological Society of London.

I. *On a Way, hitherto little attended to, by which Morbid Processes may be Transmitted from the Middle ear to the Cavity of the Cranium.*—The immediate cause of the following observations was a case interesting in both a forensic and a pathological point of view, which occurred in March, 1863, in the pathological dissecting room at Lund. The cause of death was proved to be abscesses of the brain, depending on internal otitis of the left side, with caries, one of which abscesses, near the base of the cerebellum, as is so often the case, proceeded from the corroded tegmen tympani. For shortness sake I shall, however, pass over both this and the other morbid changes met with, dwelling only upon that which is directly connected with the subject before us, namely, a smaller abscess in the left hemisphere of the cerebellum. From this abscess a narrow passage leads through the cerebral substance forward towards the posterior surface of the petrous bone as far as the non-perforated dura mater. The place where the passage reaches the dura mater corresponds to the “vascular foramen situated without and somewhat above the opening of the internal meatus auditorius” (note of the dissection), in the orifice of which lies a small purulent mass; immediately around this, moreover, the dura mater is separated from the bone, and somewhat thickened; at some distance upwards it is also infiltrated with pus.

The “vascular foramen” in question is described in most anatomical works, and is usually designated simply as the opening of a diploic canal, or as destined for the transmission of a small vein (Krause, Weber, Froriep, Wilson, &c.) Some authors, however, at the same time pay some attention to the mode of its formation. Thus Henle (*Knochenlehre*, pp. 142 and 151) describes it as follow:—At the side of the porus audit. int., and nearer to the upper margin of the petrous portion is found a blind depression, resembling a cicatrix drawn in and with the entrance turned to the apex of the pyramid, an incompletely filled hole under the superior perpendicular semicircular canal. In the new-born child there is found under the superior anterior semicircular canal a deep hole, filled only with cartilage, with an opening having a middle direction, which hole, even in the adult, is not completely obliterated. R. Wagner, too (Sömmering, p. 55), designates the hole or chink in question as a track left by dura

mater, which in the child passes into a blind hole beneath the superior semicircular canal—Conf. also Huschke (Sömmering), p. 900.

An examination of a human fetus of from 20 to 25 centimètres (from nearly 8" to nearly 10") in length—the youngest I had at my disposal for this purpose—shows, that at that time both the external and the posterior semicircular canals still consist partially of cartilage, while the superior is already ossified throughout its whole extent. This last-named semicircular canal is on its medial side still free,—not as in the adult imbedded in an investing bony mass—and beneath it passes a hole or depression, which consequently turns its opening, in a medial direction, deeply into the cartilaginous mass situated within and above the outer semicircular canal. The depression is filled with a vascular process from the dura mater, and from it even very considerable vessels extend into the cartilage. During the progressive ossification this depression just mentioned gradually fills up; though this takes place, not uniformly from all sides, but principally from the bottom and from the anterior circumference, so that the depression, even in the new-born child, is in general rather shallow, and is situated more posteriorly under the posterior half of the superior semicircular canal. As age advances, the filling bony mass gradually increases, and appears also on the inner side around the superior semicircular canal, so that soon, in children of one and a half or two years, the medial circumference of the semicircular canal just mentioned is completely covered with bone. Of the former depression there now remains only a chink varying in width, which afterwards becomes gradually narrower, until it has assumed its permanent form of a narrow canal, leading out from the interior of the bone, and opening with a somewhat wider orifice upon its surface.

The mode of development now described explains, on the one hand, the irregular, cicatrix-like form of the outer opening of the canal, as well as why this opening, although varying considerably in its position, is found in most cases on the posterior surface of the pars petrosa, and on the other, the position, the slight variation in width, and the other circumstances of the canal itself. This canal goes in fact as nearly as possible laterally towards the centre of the superior semicircular canal, or, most frequently, somewhat behind it, and there enters into open connexion with the wider or narrower osseous cells which pervade the bony mass filling the space between the external and superior semicircular canals, and which on its side communicate freely with the antrum and mastoid cells. If, as is very often the case, the filling up mass surrounding the semicircular canals is everywhere spongy, the canal in question may immediately on the inner side of the superior semicircular canal open into bone cells, whereby it enters in a still shorter way and almost directly into connexion with the upper part of the proper cavity of the tympanum.

If we reflect further that this canal, which protects a vein, is not un-

frequently so wide as to admit an ordinary bristle, we might even *a priori* feel justified in concluding, that in many cases of processes combined with the formation of pus in the middle ear, it might form a comparatively easy route for their further transmission. Besides the above case, one described by Lebert, if I do not interpret it incorrectly, affords proof of the justice of this conclusion. His words are: (Ueber Entz. der Hirnsinus, Virchow's *Archiv*, Bd. 9, p. 414):—"On the posterior surface of the right petrous bone, externally to the meatus auditorius internus, the dura mater can be very easily separated from the rather uneven bone, and in this place is found a small jagged opening, communicating with the cavity of the tympanum, which through partial destruction of the labyrinth is destroyed, and filled with thick, purulent detritus."

Some time after I had communicated the above case (in October, 1864) to the Physiographical Society in Lund, I found another described by R. Voltolini ("Sections Yrgebnisse bei Schwerhörigen und Taubstummen" (etc. Cas. 2. Virchow's *Archiv*, Bd. 31, 1864), which presents great similarity to it in reference to the point specially under consideration. In his remarks upon the case, to which I would refer the reader, Voltolini directs particular attention to this "way, which has hitherto been completely overlooked," and also gives a detailed description of the formation I have spoken of, agreeing in every essential point with that above given.

II. *Abscess in the Cerebellum in Connexion with Affection of the Ear*.—C. R., a saddler, aged forty, admitted into the hospital of Lund on the 3rd November, 1864, died there on the 13th December. His body was submitted to *post mortem* examination on the 16th of the latter month.

The note-book states that in the month of July in the same year the patient was said to have got "a violent blow on the forehead, but that he had not observed any inconvenience from it." Many years ago, without any assignable cause, he had heard badly with the left ear. Otherwise his health was good, until about three weeks before his admission into hospital, when he "got repeated shiverings, pain in the head, particularly over the forehead, and in the right ear, with singing in the latter." His appetite disappeared, he had a bad taste in his mouth, nausea but no vomiting, a feeling of oppression and tenderness in the epigastrium; the bowels were torpid. "When he sat up in bed a mist came over his eyes. In consequence of the pain and singing in the ears just mentioned, he is hard of hearing also in the right ear, but no change in it, nor discharge from it, is perceptible."

During his stay in the hospital the most prominent symptoms were:—Constant pain in the right ear and in the forehead; which pain, however, towards the close of November, changed to the back of the neck, "where as well as behind and beneath the ear, great tenderness is found even on superficial pressure, though greater on deeper pressure," causing the patient for a long time to keep his head motionless; sometime later the

pain was felt more within the head. The appetite was slight; in December vomiting after food set in. Constant obstruction. The pulse at first was from 60 to 80, subsequently its frequency was rather increased. The temperature ranged from 37.5° to 39° (99.5° to 102.2° F.) Increasing loss of power. Pupils of equal size, not dilated. No paralysis in the muscles of the limbs, face or eyes. Intelligence not disturbed, but possibly giving way a couple of days before death.

The report of the dissection contains with respect to the parts in question:—*Head*.—Dura mater in a state of considerable tension, and its blood-vessels rather congested. The fine membranes of the brain tolerably dry both to the touch and in appearance, but without exudation. The ventricles, particularly the right, distended and filled with a perfectly colourless and clear fluid. In the antero-inferior part of the right lobe of the cerebellum was found a well-defined abscess, as large as a pigeon's egg, filled with greenish-yellow, thick pus; the parts immediately surrounding this were rather softened, and on one side were broken up into a blackish, loose matter. The other parts of this lobe, as well as the left lobe, were in appearance tolerably healthy, though the white substance was perhaps somewhat yellowish, and the mass was in general somewhat loose. In the part of the petrous bone, on which the abscess mentioned rested, the bone was, through a circuit of some lines, carious and changed into a dark, pulpy mass, over which the dura mater was dark and rather loose, which was the case also with the parts of the soft membranes found over the abscess. Both in the petrous portion and in the mastoid portion were found sinuosities filled with pus, and communicating with the external meatus auditorius.

It was not until a week after the *post mortem* examination that I had an opportunity of investigating the state of the right organ of hearing, which had in the interval lain out in tolerably severe frost. In the removal the bone had been in some measure injured, the saw having posteriorly taken away the edge of the semisulcus petrosus inferior and the processus interjugalris, and further outwards, where the section went about through the synchondrosis petro-basilaris, also the posterior part of the sulcus sinus transversalis. Moreover the cartilaginous portions of the Eustachian tube and of the meatus audit. ext. were wanting. On the posterior surface of the pars petrosa was found a corroded irregular depression, surrounded by uneven edges, somewhat undermined at the upper and inner circumference. The greatest length of this depression is 16 mm. ($\cdot62992''$) and lies almost horizontally, the greatest vertical extent (so far as it can here be determined) is 10 mm. ($\cdot39370''$), and the greatest depth, in the upper part of the depression nearly 4 mm. ($\cdot15748''$). The upper margin of the depression is at a distance of 7 or 8 mm. from the upper edge of the pars petrosa; externally it reaches to within 1 or 2 mm. of the sulcus sinus transv., internally

it is about 7 mm. (.27559") from the outer margin of the porus acoust. int.; inferiorly, the boundary cannot be accurately defined. It therefore occupies the seat of the outer orifice of the aqueductus vestibuli with its surrounding parts. The depression is filled with greenish-yellow pus, after the removal of which the fundus is seen partly covered with bright-red granulations, and is rendered uneven by low projecting angles of bone; in the interior are found also white firm filaments of connective tissue strongly attached to the bone, from their position apparently remnants of the process of the dura mater penetrating the aqueduct. Around the depression, especially at the upper and inner part of its circumference, and in and on the porus acoust. int., the posterior surface of the pars petrosa is of a bright red, with a coarsely radiating injection. The nerves situated in the porus acoust. int. are of a pale rosy red colour. In the part of the sinus transversus remaining on the preparation no change is perceptible.

After the bone had been cut through in a plane coinciding as nearly as possible with the posterior semicircular canal, and the vestibule with the superior semicircular canal had been opened, it appeared that no communication existed between the depression above described and the labyrinth, but that the compact bony mass in and around the labyrinth was of a similar rose red colour, the deepest colouring being in the neighbourhood of the depression, and slighter colouring anteriorly, so that towards the cavity of the tympanum the bone had nearly its natural colour. The contents of the bony labyrinth were so far altered, that the fluid found in it, although clear, was in the posterior semicircular canal reddish, in the vestibule and superior semicircular canal yellowish. The external semicircular canal and the cochlea could not be examined without too great injury to the preparation. Instead of the delicate filaments, which normally attach membranous to bony canals, there were found in the whole of the posterior, in the common, and in the nearest portion of the superior semicircular canal, as well as in the greater part of the vestibule, abundant collections of connective tissue. The membranous formations are here also thicker in the walls than usual, a condition which can be demonstrated also in the external membrane of the canal which was taken out. The membranous labyrinth otherwise presents in form and connexion no change perceptible to the naked eye.

In the outer part of the fundus of the depression the spongy bony substance between the inner circumference of the sulcus sinus transv. and the labyrinth is opened, and the cells situated there are filled with pus. Through the entire proper mastoid process, on the contrary, the cells, as well as also the antrum mastoideum, are perfectly free from pus, but the mucous membrane in the cells bordering on the affected part is considerably swollen and thick, which swelling diminishes towards the periphery of the bones, so that the great cells in the very apex of the mastoid

process seem little or not at all affected. Although from the depression we can in many places with a needle penetrate to the proper mastoid cells, the pus has not succeeded in extending to these, which evidently depends upon the fact, that the swollen investment in these, in themselves rather narrow cells, cuts off the connexion with the above.

The cavity of the tympanum is likewise perfectly free from pus, but its mucous membrane is thick and softened. The bones of the ear are unchanged in connexion and mobility, and no adhesions are found between the parts. The membrana tympani also seems somewhat softened, and exhibits a great oblong hole extending from the point of the handle of the malleus to the annulus fibrosus. Judging from the form of this hole and the appearances, we may, however, with all probability assume that it did not take place until after death, and it is probable that during the time the preparation lay exposed to the cold of Winter, the frozen membrane could not resist the increased atmospheric pressure from without. The external meatus exhibits nothing abnormal.

My sole object has been to give as accurate a description as, under present circumstances, was possible, of this interesting, and, with reference to the connexion between cerebral abscesses and affections of the ear, instructive case. I will, therefore, add only, that the investigation now reported appears undoubtedly to show, that the morbid process did not originate in the organ of hearing, but that the latter was only secondarily affected. The primary disease must consequently be sought behind it, in an affection either of the periosteum over the region of the aqueductus vestibuli, or of the cerebellum, with consecutive formation of abscess. Which assumption ought to be adopted, it cannot, however, in this instance, be easy to decide. But, under any circumstance, the case before us exhibits anatomically an ulcerative process in the pars petrosa, struggling outward from the cerebral cavity towards the middle ear, and which had already advanced so far, that no long time was probably needed for the pus to make a way for itself to the antrum mastoideum and the cavity of the tympanum, after which the membrana tympani formed the only obstacle, and one easily overcome, to its discharge through the external meatus. Nor, on the other hand, does the altered and "tolerably loose" part of the dura mater and other membranes of the brain, which constituted the partition between the cerebral abscess and the caries going on in the pars petrosa, seem to have required long to be broken through, whereby a connexion between the cerebral abscess and the external meatus would have been opened, but the occurrence of which, if it actually was brought about, would probably have been more difficult to explain, than the intermediate stage we here lighted upon.

III. *Extreme Attenuation with Formation of Holes in the Inferior Wall of the Tympanum—Constriction of the Fenestra Cochleæ.*—The changes here re-

ferred to were observed accidentally in a petrous bone, which with a part of another was preserved as material for preparations of the ear, and consequently without any knowledge of the symptoms with which they were attended during life. Although I am ready to admit that such descriptions of pathological preparations must possess a merely subordinate value in comparison with cases, which have been observed also during life, it seems to be going too far to deny, as has been done in some quarters with respect to the pathological anatomy of the ear, that they have any importance whatever. It is under this conviction that I hope that the following brief description will not be entirely devoid of interest or value.

As is well known, the inferior wall or fundus of the cavity of the tympanum is normally very narrow, is longitudinally more or less excavated, and lies with its deepest part somewhat lower than the sulcus tympani. It most frequently appears uneven from low angles of bone, which form small irregular cells. On section it is found to be, in different individuals, of very varying thickness, and not unusually very thin and transparent. Sections show further, that the deepest part of the fundus of the cavity of the tympanum, or the region below the promontory, corresponds to the arch of the fossa bulbi venæ jugularis, so that the intervening bony wall forms at once the floor of the one and the roof of the other cavity, a circumstance to the practical importance of which, with reference both to embolic formation in the jugular vein, and to hemorrhage from the same, Toynbee first, and after him, Tröltsch, directed attention.

In the preparation I am now speaking of, belonging to the left ear, the bony wall in question is not merely as thin as paper, and on its upper or tympanal surface perfectly smooth, but is at the same time pushed up into the cavity of the tympanum by the fossa bulbi jugul., which appears unusually deep, so that the bottom of the cavity, instead of being excavated, forms a longitudinal rounded elevation. This elevation is so considerable that it covers the inferior part of the promontory and the greater part of the fenestra cochleæ, and slopes outwardly towards the sulcus tympani. Corresponding to its situation so high up in the tympanum, this lower wall has, of course, an unusual breadth, reaching, at the broadest part, to more than 4 mm. (.15748'') in length and 0.8 mm. (.031396'') in breadth, and lies near, or rather in, the very sulcus tympani, so that the membrana tympani seems to have been in part attached to it. The other hole is tolerably round, 1.5 mm. (.059055'') in diameter but with cut edges, and is situated in the highest part of the elevation, immediately external to the fenestra cochleæ and below the outer extremity of the fenestra vestibuli;

the two holes are therefore situated, each on its side of the elevation, in the vicinity of its junction with the lateral walls of the cavity of the tympanum. In consequence of the elevation, too, as has already been stated, the fenestra cochleæ has been for the most part closed from without, so that only in its upper part does it leave a passage for an ordinary bristle. No changes can be discovered in the bony labyrinth.

As no perceptible change was met with in the investing mucous membrane, there was no reason to assume that the person should have experienced any actual injury from the attenuation in question, but the preparation exhibits only an anatomical arrangement of the parts, which, in case of the occurrence of an inflammatory or carious process in the cavity of the tympanum, might easily, in consequence of the slighness of the obstacle to the passage into the jugular vein, have led to the most dangerous results. On the other hand, there can be no doubt that the constriction of the fenestra cochleæ, which, as the mucous membrane was found remaining, amounted to an actual obliteration, so that it could not be discovered from without, must have had an essential influence upon the person's hearing.

IMPORTANT LETTER TO THE PRESIDENT, VICE-PRESIDENTS,
GOVERNORS, AND GUARDIANS OF THE LYING-IN HOSPITAL.
By EVORY KENNEDY, M.D.

MAY IT PLEASE YOUR EXCELLENCY, MY LORDS AND
GENTLEMEN,

The great Institution confided to our guardianship, which has, for upwards of a century constituted an ornament, and, as the first of the kind, a source of justifiable pride to our city, requires to be remodelled. The time has arrived in which, like all human institutions, progress and changing circumstances have produced such an influence upon it, that neither the intentions of the founder, the wants and just rights of the public, nor the claims of humanity, by securing the greatest preservation of life, are accomplished by its instrumentality. These considerations have so long pressed upon me—considerations, strengthened by my occupations and habits of thought, and so confirmed by a connexion of nearly forty years with this Institution in the various capacities of pupil, assistant, master, and governor, that I venture to hope no excuse is required for my present intrusion.

The preamble of the charter sets forth its objects as fourfold. First, that of preserving the lives and relieving the miseries of

numberless lying-in women and their infants. Second, that of preventing child desertion and infanticide. Third, the prevention of gentlemen from going abroad for instruction in midwifery. And lastly, that by "admitting and instructing, in such hospital, women who, after some time spent there, being duly qualified, may settle in such parts of our said kingdom, as most stand in need of such persons, it will be a means of preventing the unhappy effects owing to the ignorance of the generality of country midwives."

That these objects *have* been accomplished it cannot be denied; but that they *are* accomplished to the extent and degree commensurate with the present resources and capabilities of the foundation, no man can for a moment affirm.

This proposition will appear evident, when it is stated that the patients admitted in the year 1818 amounted to 3,801; those delivered to 3,539; whilst these admitted in 1866 only numbered 1,324: those delivered only 1,069. In the year 1837, when the Institution was under my care, the admissions having fallen under 2,000, the Governors, on my application, allowed me to establish a dispensary for treating externs, and to open a ward for the diseases of females. Since that time upwards of 4,000 females, labouring under diseases peculiar to their sex, little understood and less attended to in other hospitals, have been admitted and treated within the walls of your hospital—treated, I say, by competent physicians who have made this class of disease their especial study.

And yet this is nothing to what might have been accomplished had the admissions been increased in the wards for the diseases of females as the admission of labour cases diminished. Let us now inquire why have the admission of labour cases diminished to nearly a fourth the number of those in 1818? At its foundation, the Dublin Lying-in Hospital was a unique institution, and for 80 years no other asylum or means of caring for lying-in women in their hour of need existed in this city. Subsequently, the Coombe Hospital and other maternities were opened, affording facilities for attendance upon the poorer classes in their own homes. Again, the North and South Union Poor-houses afforded asylums for the more destitute. These combined causes lessened the number of applicants for admission until at length they have fallen from nearly four to little over one thousand annually. No doubt, the prevalent idea of recoveries being better at their own homes than in hospital, since public attention has been called to the comparative statistics in each case, has had its influence in lessening the number of applicants to

hospital. Be this as it may, the Governors of the hospital are not responsible for the diminution in the numbers, as they have received all that applied. They have thus, as far as in them lay, carried out the intention of the founder in relieving the miseries of all the lying-in women that have applied for admission. But how have we acquitted ourselves of our trust in the other requirement of this part of the preamble, that of "preserving the lives" of the patients confided to our charge? My conscience obliges me to admit a conclusion, which has been long pressing upon my mind, that in this respect we have failed. Failed from no want of care, of talent, or assiduity, on the part of our medical officers—failed from no niggard supply of food, medicine, or appliances—failed from no neglect on the part of our efficient staff of nurses and superintendents. But, simply, because the original plan and construction of the hospital was faulty, and because our great founder, Mosse, did not possess the power of divination or foreseeing what experience of the working of such an institution for many years could alone reveal, namely, that the congregating a number of lying-in women under the same roof engenders and spreads amongst them a disease, "*sui generis*," and of the most fatal character.

Puerperal fever, although occasionally met with, and even epidemic in the homes of both rich and poor, is known to haunt our lying-in hospitals as its peculiar "*habitat*," and so great are its ravages in lying-in hospitals, and such the proportion of victims swept away by it, in proportion to other fatalities in parturition, that there are physicians and philanthropists who even question whether lying-in hospitals, as generally constructed, do not prove rather a curse than a blessing to the lying-in patient. Upwards of twenty years since my attention was called to this subject by having been consulted by some benevolent people in America as to the best principle on which to construct a lying-in hospital. And I then unhesitatingly advised that it should be constructed in detached buildings, capable of containing only two or three beds in each building, and one story high, or, if two stories high, that separate entrances by outside stairs should exist to each room.

It is this plan that I now beg to suggest to you for adoption at the lying-in institution under your care; and peculiar facilities exist by possessing a high plateau, particularly well suited to this purpose in that portion of the Rotundo gardens next to Palace-row. This plateau is about 400 feet by 200. On this I would recommend that 30 cottages, 25 feet by 15, with avenues 20 feet

wide intervening, be built; that these be fitted with 3 beds in each, according to the accompanying plan. Fortunately, through the forethought of your former master, Dr. Collins, to whose exertions the finances of the hospital owe so much, the ground of the square has become the property of the hospital, so that the required buildings can be constructed on your own ground. The money for this purpose, as I explained to your Board on a former occasion, can be obtained at 3 per cent., paying itself off in 12 years.

Into these cottages the lying-in patients should be admitted by an entrance at Palace-row. Your lying-in patients now only average about 37 in hospital at the same time, and 60 beds would afford an ample supply to secure the proper cleansing and ventilation between each fresh admission. By this means, and the never having more than two patients and one nurse under each roof, there can be little doubt that puerperal fever would, if not banished, merely show itself in the same proportion of cases, and only prove as fatal as it is observed in private practice. These buildings might be constructed in the style of the cottage ornée, and have the effect of a Swiss chalet, as seen from the houses in the square, proving rather an ornament than otherwise.

You were good enough, my lords and gentlemen, to accede to the resolution I proposed, and directed that your Master should afford assistance to all poor lying-in women who required obstetrical attendance in their own homes, and also that a registry should be kept of those so attended. It is gratifying to find that this plan has been in successful operation, and is fully appreciated by those patients who have taken advantage of it.

As exception has been taken by the learned Professor, Sir. J. Simpson, of Edinburgh, to the preference reserved in the charter for those who have served the office of assistant in the election of a master, we deem it due to the Founder's memory, and the interests of the Hospital, to dwell upon the importance of this provision being strictly adhered to. Nothing more clearly evinces the astuteness and wisdom of Mosse than its inculcation.

We decline to base his motives upon the lower ground of merely encouraging his own alumni, and holding out the important, and, as it has transpired, most lucrative office of master, as a reward and motive to exertion in the great school he was founding. This, no doubt, may have influenced him to a certain extent, and with perfect justice. If his reason for making such a provision was this, his arrangement should be respected, and his wish in this, his will and

testament, to provide for his own, should be disturbed by no rude hand. But Mosse's motives were far deeper, broader, more catholic. The founder of such an institution, to his own impoverishment, was influenced by no narrow or exclusive motives in selecting a physician to be intrusted with the charge of the institution for which he had sunk his all; the establishment of which had been the labour of a life; and the sustentation of which, in the highest efficiency when he passed away, was no doubt the first object of his care. Mosse, himself a physician accoucheur in large practice, knew well that a man may succeed to a large practice, be a popular physician—nay, even sustain a reputation as a writer and improver of his art, and yet not be either a safe or a sound physician accoucheur, or such an one as he would feel justified in entrusting with the lives of the patients in his darling Institution, or with the instruction of the pupils of that medical school he was engaged in establishing. He knew that the opportunities of study within his Institution would be unequalled. He knew that the extent of observation enjoyed by a physician in however extensive practice could only be counted by fifties, whilst those to be enjoyed in his hospital would be counted by thousands. He knew that in midwifery practice especially, the varieties were so sparse that their numerical proportion rendered it impossible to be conversant with them *all* unless in a large hospital or great maternity; and that even at the end of a long life, several of them might be left unseen by the private practitioner. He knew that he did not want a master who was only acquiring his experience when he was past his work, but one whose ample opportunities—whilst his youth and vigour remained—secured his fitness to undertake so arduous a trust. All these matters he was fully conversant with; and he concluded, and most wisely concluded, that nothing better secured this than making a master, before his election, serve an apprenticeship as pupil and assistant in the largest available field of observation.

It now remains to be considered to what purpose the great hospital and the auxiliary hospital should be applied, and this consideration involves the last two objects set forth by the founder in the preamble—the preventing gentlemen going abroad for instruction, and the supplying duly qualified women as labour nurses throughout the kingdom.

In no manner could the former object be so satisfactorily and carefully carried out as by extending the principles of your present diseases of female ward, and appropriating several additional wards

to this purpose, and two, if possible, to diseases (not contagious) of children. The results that have already followed your twenty-eight years' adoption of this plan fully justify its extension; and this, together with a large increase of attendance of labour cases at their own homes, and the attendance on the hospital patients in the detached cottages, would afford facilities to the obstetrical student that Mosse himself would have been satisfied with.

I have now only to report to your Board in reference to the remaining object of our founder, that of facilitating the instruction of qualified women to practice throughout the kingdom, that I waited upon Mr. Power and Dr. M'Donnel, the Poor Law Commissioners, who expressed themselves as much gratified at the resolution of the Board to admit women for instruction to be sent up by the Poor Law Unions on the payment of £5. But although they fully felt the great want that exists for a supply of midwives, and how great an object it is to obtain them, they regretted that the state of the law is not such as to authorize them to require the unions to present even £5 for this purpose. It therefore remains for us to consider whether, after existing interests lapse, arrangements may not be made before a new election of officers, by which this portion of the master's fee be not also discontinued, as the present master so liberally yielded the other portion.

As no part of our trust is more important than affording an increased supply of educated midwives, the arrangements proposed above will place the auxiliary hospital, and some wards of the great hospital, at our disposal for the purpose of accommodating any additional number we may require, and thus every requirement of the charter will be complied with. By first accommodating every patient who prefers being admitted to hospital, in wards so constructed as to afford them every comfort and advantage without incurring the risk from puerperal fever; by affording home attendance to every one that applies; by establishing an additional number of wards for those diseases incidental to parturition, and the female specially; by enlarging the opportunities for the male student, so as to make it a perfect obstetrical school; by doing the same for the female student, and thus increasing the supply of well qualified midwives throughout the country.

It might be necessary in carrying out these suggestions to add to the medical staff of the hospital, as the master and assistants would be unable to devote the time necessary; for instance, an additional assistant might be necessary. The consulting physician

and surgeon, in place of being as they are at present, sinecure officers, would have to undertake the hospital duties, and possibly additional physicians and surgeons might be appointed to take alternate periods of duty.

The surgeons and physicians should be required to deliver clinical lectures to the pupils upon their cases. The female pupils admitted should be of a better instructed class than those hitherto sent up from the country, and a higher grade of educated females might be admitted, who, after undergoing a more protracted attendance at the hospital, and probably at lectures of a higher character, might, on examination, obtain a higher certificate of fitness in their walk. This would induce a superior class of women to enter upon the duties of nurse, and prove a great boon to the female population of this country.

You were good enough, in the year 1839, to approve of my establishing within the walls of this hospital, a society for the encouragement and spread of obstetrical knowledge, open to all persons devoted to these inquiries. I have now the gratification of informing you that the Dublin Obstetrical Society, established under your auspices, has developed into a national institution of European reputation—numbering amongst its members many of the most distinguished improvers of our art at home and abroad. That it has assisted in carrying out the designs of your founder, not exactly as he expresses it, by preventing such gentlemen as mean to practice midwifery from going abroad for instruction, but by drawing many gentlemen from abroad here for that laudable purpose.

The gross annual income of your hospital, as you are aware, amounts to about £3,600; but, on deducting debenture interest, flagging the square, and the Rotunda expenses, the net available income may be stated at £2,600. The time has arrived, in anticipation of the modifications above proposed, for inquiring how the funds of the hospital can be increased, and no time could be more opportune than the present. The Board could not contemplate any interference with vested rights; yet there is a prevalent conviction that the fees of the pupils and assistants should in this as in other hospitals, be appropriated in part or in whole to its maintenance. In support of this view, it is assumed that the reputation gained by the Mastership is of itself sufficient remuneration for his services, and that if it were not directly remunerative in a pecuniary point of view, physicians advanced in life would not seek it as a means merely of money making, whilst the competition would

remain amongst younger men, who, whilst they possessed sufficient experience, would be influenced in their devoting their energies to work and improve it for the sake of the reputation to be acquired.

There is much reason in this latter view; but I should hesitate in recommending any alteration that would prevent the ablest men in the profession from looking to it as an object of ambition. It must be recollected, also, that it is an arduous charge, requiring a large proportion of time and residence. It must also be borne in mind that upon the exertions and attention of the master depends the supply of funds to the hospital as well as the number of his pupils. So that he should have a direct interest in increasing both.

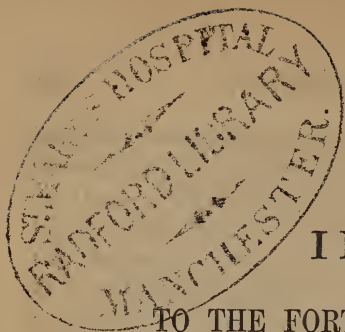
Perhaps the most equitable and the most effective manner of dealing with this branch of our question would be to allow all the proceeds under the head of fees for instruction to be divided equally between the Master and hospital. As the ensuing year is the last for which the present Master can be elected, if such an arrangement were adopted, it could not come into operation until the eve of the new election for Master. This would not in any way interfere with vested rights, as the candidates would be purchasers with notice; and, whilst it would enrich the institution by about £500 a-year, it would not lessen by one individual the number of candidates seeking for the appointment.

I have already drawn the attention of the Board to the increase of certain items of expenditure in which a further saving might be effected; and I have little doubt that when we show the public our readiness to make the institution entrusted to our care worthy of their support, that encouragement on their part will prove equivalent to our exertions.

I have now merely to state that I transmit this letter for your perusal previous to the meeting of the Governors, which will take place at the Rotunda Hospital at 3 o'clock on the first Friday in November, when it is my intention to draw the attention of the Governors to the propositions herein contained, in the confident hope that so far as they are deserving of your attention they will obtain your support; and thanking you most sincerely for the attention with which my suggestions have always been considered by your Board, I have the honour to remain, your Excellency, my Lords, and Gentlemen,

Your obedient servant,

EVERY KENNEDY.



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